

CHAPTER 4:

HAZARD VULNERABILITY ASSESSMENT

NOTE:

This section of the Franklin County Hazard Mitigation Plan contains jurisdictional-specific information regarding vulnerability to various hazards and proposed mitigation strategies. Each entity participating in the multi-jurisdictional process worked independently utilizing locally-developed forms as well as the 20/20 Mitigation Software provided to Franklin County by the Washington State Military Department, Emergency Management Division to help assess their vulnerability to various natural hazards. This assessment process was made on a subjective basis considering past events and the best available information. In addition, each entity did their best to list mitigation strategies currently in place as well as identify new mitigation strategies and/or projects that would benefit their specific community. The information contained in this section regarding vulnerability and mitigation strategies are specific to each participating jurisdiction, or special purpose district that participated in the development of this plan.

Franklin County

The purpose of this section of the plan is to assess the vulnerability of the unincorporated portions of Franklin County in regards to the various hazards previously identified in Chapter 2 of this plan. In addition, mitigation strategies that are currently in place relating to these hazards as well as newly proposed mitigation strategies have been included in this section of the plan. To complete the vulnerability assessment process, various county staff utilized a series of forms available in the 20/20 Mitigation Software. The information collected with these forms is included in this portion of the plan.

As part of the vulnerability assessment process, Franklin County officials completed an inventory of all critical facilities and have considered these critical facilities in their planning and mitigation strategy development process. However, due to post 9/11 concerns, those facilities are not listed in this document. A list of these facilities will be made available to FEMA personnel in the event this information is required to obtain future hazard mitigation grant funding.

Representatives from Franklin County government worked closely with other agencies and Franklin County Emergency Management staff to develop a comprehensive, coordinated mitigation plan intended to reduce the vulnerability to hazards within the unincorporated portions of Franklin County. The information contained in this document presents the results of this effort to identify the specific hazards threatening Pasco, to characterize the vulnerability of Franklin County regarding these hazards, and to identify current as well as proposed mitigation strategies, projects and/or programs to address those vulnerabilities.

The assessment is based on the best currently available information and data regarding the characteristics of the neighborhoods identified, the hazards that threaten the people, property, and environment of these neighborhoods as well as the impacts these neighborhoods have suffered in past disasters. This information includes, when available, United States Census data, local tax records, local and national geographic information system data, Flood Insurance Rate Maps, hazard specific analyses, and other environmental and demographic facts.

However, very often authoritative or current information simply was not available for the planning effort. In these cases, the experience, knowledge and judgment of local officials representing Franklin County government were used in the planning, including assumptions and approximations that were believed to be reasonable. In addition, straight-forward, simplified technical analyses were used for tasks such as estimating property values, determining the size of populations affected, and so forth. The reliance on the judgment of knowledgeable officials and simplified analyses is considered acceptable at this stage to allow the participating organizations to complete the tasks needed to develop this multi-jurisdictional hazard mitigation plan. As the planning continues in future years, or at the time when a proposed mitigation initiative is intended to be funded and/or implemented, the participating organizations/jurisdictions recognize that additional information and analyses may be required. Franklin County government is committed to the implementation of the mitigation-related projects/programs described in this section of the plan when and if resources become available. Franklin County government is also

committed to continuing the mitigation planning process that has resulted in the development of this document, and to the ongoing cooperation with other agencies, organizations, and jurisdictions to make Franklin County more resistant to the damages and hardships that could otherwise be the result of future disasters.

Franklin County Overview

Contact Information: Fred Bowen, County Administrator

Franklin County

1016 No. 4th Ave.

Pasco, WA 99301

Telephone: (509) 545-3535

Population of Jurisdiction: 53,600 and increasing slightly

Principal Economic Base: Agricultural

Economic Characteristic: Average for the State

Current Hazard Mitigation Codes/Plans/Ordinances:

- Comprehensive Land Use Plan
- Adopted Land Use/Zoning Code
- Adopted Fire Safety Code (Universal Fire Code)
- Adopted Building Code (State-approved 1997 Uniform Building Code)
- Participation in NFIP Program

Jurisdiction-Specific Vulnerability Assessment & Mitigation Strategies

Current Land Uses and Potential for New Development

10 percent (124.24 square miles) of the jurisdiction remains to be developed

Current Land Use Category	Percent of Jurisdiction
Agricultural	85%
Commercial	1%
Industrial	1%
Residential	2%
Transportation or utility right-of-way	1%
Vacant/unused - government ownership	10%

Future Land Use

The current rate of new development of vacant or unused land is occurring rapidly or somewhat faster than planned.

The current rate of expansion, reconstruction or redevelopment of existing properties is occurring in some properties in a few locations.

Development/Redevelopment Currently Controlled By:

- A building code (1997 State-approved UBC)
- A land use plan
- A zoning code
- Hazard-specific ordinance: Floods
- Hazard-specific ordinance: Geologic Hazards

Future Land Use Category (planning year 2005)	Percent of Jurisdiction
Agricultural	78%
Commercial	2%
Industrial	2%
Residential	7%
Transportation or utility right-of-way	1%
Vacant/unused - government ownership	10%

Comparison of Jurisdictional Relative Risk

Hazard	Probability of Occurrence	Impacted Area	Health & Safety Impacts	Property Impacts	Environmental Impacts	Economic Impacts	Total Hazard Rating
Natural		Total Natural Hazard Risk Rating: 354					
Drought	4	3	0	0	1	1	20
Earthquake	2	4	2	1	1	3	22
Flooding	3	1	1	1	1	2	18
Hail	4	4	1	1	0	1	28
High Winds	5	4	1	1	1	1	40
Infestation, Disease	4	4	2	0	2	2	40
Landslide, Erosion	3	2	1	1	2	3	27
Lightning	5	4	1	1	0	1	35
Major Fire - Urban	4	1	1	1	1	1	20
Major Fire – Wildland	4	3	1	1	1	1	28
Severe Winter Storm	4	4	1	1	1	1	32
Subsidence/ Expansive Soils	4	1	0	0	1	1	12
Volcano Activity	4	4	1	1	1	1	32
Societal		Total Societal Hazard Risk Rating: 70					
Civil Disturbance	1	0	0	0	0	1	1
Crime	5	4	2	1	0	1	40
Economic Crisis	2	4	0	0	0	3	14
Key Employer Crisis	2	2	0	0	0	2	8
Terrorism	1	1	2	1	1	2	7
Technological		Total Technological Hazard Risk Rating: 102					

Hazard	Probability of Occurrence	Impacted Area	Health & Safety Impacts	Property Impacts	Environmental Impacts	Economic Impacts	Total Hazard Rating
Hazardous Materials	4	2	2	1	1	1	28
Loss of Electrical Service	4	4	1	0	0	1	24
Loss of Gas Service	1	0	0	0	0	0	0
Loss of Sewer Service	2	1	0	0	1	0	4
Loss of Water Service	2	1	0	0	1	0	4
Radiological	2	4	1	1	2	3	22
Telecommunications Failure	4	4	0	0	0	1	20
Total Risk Rating: 526							

NOTE: See table below for explanation of ratings.

<i>Impact Area</i>		<i>Probability of Occurrence</i>		<i>Health & Safety Impacts</i>	
0	No developed area impacted	1	Unknown but rare occurrence	0	No Health and Safety impact
1	Less than 25% of developed areas impacted	2	Unknown but anticipate an occurrence	1	Few injuries/illnesses
2	Less than 50% of developed area impacted	3	100 years or less occurrence	2	Few fatalities but many injuries/illnesses
3	Less than 75% of developed area impacted	4	25 years or less occurrence	3	Numerous fatalities
4	Over 75% of developed area impacted	5	Once a year or more occurrence		

<i>Property Impacts</i>		<i>Environmental Impacts</i>		<i>Economic Impacts</i>	
0	No property damage	0	Little or no environmental damage	0	No economic impact
1	Few properties destroyed - few properties damaged	1	Resources damaged with short term recovery practical	1	Low direct and/or low indirect costs
2	Few destroyed - many damaged	2	Resources damaged with long term recovery feasible	2	High direct & low indirect costs
2	Few damaged - many destroyed	3	Resources destroyed beyond recovery	2	Low direct & high indirect costs
3	Many properties destroyed and damaged			3	High direct && high indirect costs

Neighborhood Types and Structure Characteristics

<i>Neighborhood</i>	<i>Type Neighborhood</i>	<i>Predominant Structure Type</i>	<i>Number of Structures</i>	<i>Average Value of Structures</i>
Basin City	Mixed Use	Mixed Structure Type	653	\$91,536
Connell	Mixed Use	Mixed Structure Type	149	\$108,939
Eltopia	Mixed Use	Mixed Structure Type	596	\$82,610
Juniper Dunes	Mixed Use	Mixed Structure Type	345	\$134,766
Kahlotus	Mixed Use	Mixed Structure Type	72	\$50,108
North Pasco	Mixed Use	Mixed Structure Type	723	\$159,226
Riverview	Residential	Mixed Structure Type	1099	\$106,029

Estimated Population at Risk by Hazard

<i>Hazard/ Neighborhood</i>	<i>Neighborhood Type</i>	<i>Estimated Population</i>	<i>Percent Population Considered at Risk</i>	<i>Total Estimated Population at Risk</i>
<i>Civil Disturbance</i>				
Basin City	Mixed Use	2,961	100%	2,961
Connell	Mixed Use	590	100%	590
Eltopia	Mixed Use	2,187	100%	2,187
Juniper Dunes	Mixed Use	953	100%	953
Kahlotus	Mixed Use	299	100%	299
North Pasco	Mixed Use	1,433	100%	1,433
Riverview	Mixed Use	3,215	100%	3,215
<i>Crime</i>				
Basin City	Mixed Use	2,961	100%	2,961
Connell	Mixed Use	590	100%	590
Eltopia	Mixed Use	2,187	100%	2,187
Juniper Dunes	Mixed Use	953	100%	953
Kahlotus	Mixed Use	299	100%	299
North Pasco	Mixed Use	1,433	100%	1,433
Riverview	Mixed Use	3,215	100%	3,215
<i>Drought</i>				
Basin City	Mixed Use	2,961	100%	2,961

<i>Hazard/ Neighborhood</i>	<i>Neighborhood Type</i>	<i>Estimated Population</i>	<i>Percent Population Considered at Risk</i>	<i>Total Estimated Population at Risk</i>
Connell	Mixed Use	590	100%	590
Eltopia	Mixed Use	2,187	100%	2,187
Juniper Dunes	Mixed Use	953	100%	953
Kahlotus	Mixed Use	299	100%	299
North Pasco	Mixed Use	1,433	100%	1,433
Riverview	Mixed Use	3,215	100%	3,215
<i>Earthquake</i>				
Basin City	Mixed Use	2,961	100%	2,961
Connell	Mixed Use	590	100%	590
Eltopia	Mixed Use	2,187	100%	2,187
Juniper Dunes	Mixed Use	953	100%	953
Kahlotus	Mixed Use	299	100%	299
North Pasco	Mixed Use	1,433	100%	1,433
Riverview	Mixed Use	3,215	100%	3,215
<i>Economic Crisis</i>				
Basin City	Mixed Use	2,961	100%	2,961
Connell	Mixed Use	590	100%	590
Eltopia	Mixed Use	2,187	100%	2,187
Juniper Dunes	Mixed Use	953	100%	953
Kahlotus	Mixed Use	299	100%	299
North Pasco	Mixed Use	1,433	100%	1,433
Riverview	Mixed Use	3,215	100%	3,215
<i>Flooding</i>				
Connell	Mixed Use	590	10%	59
Eltopia	Mixed Use	2,187	10%	219
Kahlotus	Mixed Use	299	5%	15
North Pasco	Mixed Use	1,433	10%	143
Riverview	Mixed Use	3,215	100%	3,215
<i>Hail</i>				
Basin City	Mixed Use	2,961	100%	2,961
Connell	Mixed Use	590	100%	590
Eltopia	Mixed Use	2,187	100%	2,187
Juniper Dunes	Mixed Use	953	100%	953
Kahlotus	Mixed Use	299	100%	299
North Pasco	Mixed Use	1,433	100%	1,433
Riverview	Mixed Use	3,215	100%	3,215

<i>Hazard/ Neighborhood</i>	<i>Neighborhood Type</i>	<i>Estimated Population</i>	<i>Percent Population Considered at Risk</i>	<i>Total Estimated Population at Risk</i>
<i>Hazardous Materials</i>				
Basin City	Mixed Use	2,961	100%	2,961
Connell	Mixed Use	590	100%	590
Eltopia	Mixed Use	2,187	100%	2,187
Juniper Dunes	Mixed Use	953	100%	953
Kahlotus	Mixed Use	299	100%	299
North Pasco	Mixed Use	1,433	100%	1,433
Riverview	Mixed Use	3,215	100%	3,215
<i>High Winds</i>				
Basin City	Mixed Use	2,961	100%	2,961
Connell	Mixed Use	590	100%	590
Eltopia	Mixed Use	2,187	100%	2,187
Juniper Dunes	Mixed Use	953	100%	953
Kahlotus	Mixed Use	299	100%	299
North Pasco	Mixed Use	1,433	100%	1,433
Riverview	Mixed Use	3,215	100%	3,215
<i>Infestation, Disease</i>				
Basin City	Mixed Use	2,961	100%	2,961
Connell	Mixed Use	590	100%	590
Eltopia	Mixed Use	2,187	100%	2,187
Juniper Dunes	Mixed Use	953	100%	953
Kahlotus	Mixed Use	299	100%	299
North Pasco	Mixed Use	1,433	100%	1,433
Riverview	Mixed Use	3,215	100%	3,215
<i>Loss of Electrical Service</i>				
Basin City	Mixed Use	2,961	100%	2,961
Connell	Mixed Use	590	100%	590
Eltopia	Mixed Use	2,187	100%	2,187
Juniper Dunes	Mixed Use	953	100%	953
Kahlotus	Mixed Use	299	100%	299
North Pasco	Mixed Use	1,433	100%	1,433
Riverview	Mixed Use	3,215	100%	3,215
<i>Loss of Gas Service</i>				
Connell	Mixed Use	590	5%	30
North Pasco	Mixed Use	1,433	5%	72
Riverview	Mixed Use	3,215	100%	3,215

<i>Hazard/ Neighborhood</i>	<i>Neighborhood Type</i>	<i>Estimated Population</i>	<i>Percent Population Considered at Risk</i>	<i>Total Estimated Population at Risk</i>
<i>Loss of Sewer Service</i>				
Basin City	Mixed Use	2,961	100%	2,961
Connell	Mixed Use	590	100%	590
Eltopia	Mixed Use	2,187	100%	2,187
Juniper Dunes	Mixed Use	953	100%	953
Kahlotus	Mixed Use	299	100%	299
North Pasco	Mixed Use	1,433	100%	1,433
Riverview	Mixed Use	3,215	100%	3,215
<i>Loss of Water Service</i>				
Basin City	Mixed Use	2,961	100%	2,961
Connell	Mixed Use	590	100%	590
Eltopia	Mixed Use	2,187	100%	2,187
Juniper Dunes	Mixed Use	953	100%	953
Kahlotus	Mixed Use	299	100%	299
North Pasco	Mixed Use	1,433	100%	1,433
Riverview	Mixed Use	3,215	100%	3,215
<i>Major Fire - Urban</i>				
Basin City	Mixed Use	2,961	10%	296
Connell	Mixed Use	590	10%	59
North Pasco	Mixed Use	1,433	20%	287
Riverview	Mixed Use	3,215	30%	965
<i>Major Fire - Wildland</i>				
Basin City	Mixed Use	2,961	100%	2,961
Connell	Mixed Use	590	100%	590
Eltopia	Mixed Use	2,187	100%	2,187
Juniper Dunes	Mixed Use	953	100%	953
Kahlotus	Mixed Use	299	100%	299
North Pasco	Mixed Use	1,433	100%	1,433
Riverview	Mixed Use	3,215	100%	3,215
<i>Radiological</i>				
Basin City	Mixed Use	2,961	100%	2,961
Connell	Mixed Use	590	100%	590
Eltopia	Mixed Use	2,187	100%	2,187
Juniper Dunes	Mixed Use	953	100%	953
Kahlotus	Mixed Use	299	100%	299
North Pasco	Mixed Use	1,433	100%	1,433
Riverview	Mixed Use	3,215	100%	3,215

<i>Hazard/ Neighborhood</i>	<i>Neighborhood Type</i>	<i>Estimated Population</i>	<i>Percent Population Considered at Risk</i>	<i>Total Estimated Population at Risk</i>
<i>Severe Winter Storm</i>				
Basin City	Mixed Use	2,961	100%	2,961
Connell	Mixed Use	590	100%	590
Eltopia	Mixed Use	2,187	100%	2,187
Juniper Dunes	Mixed Use	953	100%	953
Kahlotus	Mixed Use	299	100%	299
North Pasco	Mixed Use	1,433	100%	1,433
Riverview	Mixed Use	3,215	100%	3,215
<i>Telecommunications Failure</i>				
Basin City	Mixed Use	2,961	100%	2,961
Connell	Mixed Use	590	100%	590
Eltopia	Mixed Use	2,187	100%	2,187
Juniper Dunes	Mixed Use	953	100%	953
Kahlotus	Mixed Use	299	100%	299
North Pasco	Mixed Use	1,433	100%	1,433
Riverview	Mixed Use	3,215	100%	3,215
<i>Volcano Activity</i>				
Basin City	Mixed Use	2,961	100%	2,961
Connell	Mixed Use	590	100%	590
Eltopia	Mixed Use	2,187	100%	2,187
Juniper Dunes	Mixed Use	953	100%	953
Kahlotus	Mixed Use	299	100%	299
North Pasco	Mixed Use	1,433	100%	1,433
Riverview	Mixed Use	3,215	100%	3,215

To make jurisdiction-wide analysis of the population at risk for each hazard type feasible and practical for mitigation planning purposes, a simplified approach has been used. The estimate of the population at risk for specific hazards is accomplished in the following manner: The population in a specific neighborhood is estimated by local planners, based on readily available data or their best judgment in the absence of suitable data. The population could be residents, workers, visitors, institutionalized individuals, mixed population types, etc., depending on the characteristics of the neighborhood. The percentage of the area of the specific neighborhood threatened by the identified hazard is then estimated by local planners, again based on readily available data or their best judgment. The percent of the neighborhood at risk is then used as a multiplier to determine the estimated number of people at risk from that hazard. The methodology is simplistic but conservative, in that it assumes occupied structures are uniformly distributed throughout the neighborhood in relation to the area of risk, that the population is present in the neighborhood on a 24 hour, 7 day basis, and that all individuals are equally

vulnerable to the impacts of the hazard event. The derived estimates for the number of people at risk may therefore be higher than actually is the case, but the estimates are considered satisfactory to support the local mitigation planning process.

Estimated Value of Structures at Risk by Hazard

Hazard/ Neighborhood	Neighborhood Type	Est. Number of Structures	Avg. Value of Each Structure	Percent Structures Considered at Risk	Total Est. Value of Structures at Risk
<i>Civil Disturbance</i>					
Basin City	Mixed Use	653	\$91,536	100%	\$59,773,200
Connell	Mixed Use	149	\$108,939	100%	\$16,231,900
Juniper Dunes	Mixed Use	345	\$134,766	100%	\$46,494,300
Eltopia	Mixed Use	596	\$82,610	100%	\$49,235,300
Kahlotus	Mixed Use	72	\$50,108	100%	\$3,607,800
North Pasco	Mixed Use	723	\$159,226	100%	\$115,120,700
Riverview	Mixed Use	1099	\$106,029	100%	\$116,525,500
<i>Crime</i>					
Basin City	Mixed Use	653	\$91,536	100%	\$59,773,200
Connell	Mixed Use	149	\$108,939	100%	\$16,231,900
Juniper Dunes	Mixed Use	345	\$134,766	100%	\$46,494,300
Eltopia	Mixed Use	596	\$82,610	100%	\$49,235,300
Kahlotus	Mixed Use	72	\$50,108	100%	\$3,607,800
North Pasco	Mixed Use	723	\$159,226	100%	\$115,120,700
Riverview	Mixed Use	1099	\$106,029	100%	\$116,525,500
<i>Drought</i>					
Basin City	Mixed Use	653	\$91,536	100%	\$59,773,200
Connell	Mixed Use	149	\$108,939	100%	\$16,231,900
Juniper Dunes	Mixed Use	345	\$134,766	100%	\$46,494,300
Eltopia	Mixed Use	596	\$82,610	100%	\$49,235,300
Kahlotus	Mixed Use	72	\$50,108	100%	\$3,607,800
North Pasco	Mixed Use	723	\$159,226	100%	\$115,120,700
Riverview	Mixed Use	1099	\$106,029	100%	\$116,525,500
<i>Earthquake</i>					
Basin City	Mixed Use	653	\$91,536	100%	\$59,773,200
Connell	Mixed Use	149	\$108,939	100%	\$16,231,900
Juniper Dunes	Mixed Use	345	\$134,766	100%	\$46,494,300
Eltopia	Mixed Use	596	\$82,610	100%	\$49,235,300
Kahlotus	Mixed Use	72	\$50,108	100%	\$3,607,800
North Pasco	Mixed Use	723	\$159,226	100%	\$115,120,700
Riverview	Mixed Use	1099	\$106,029	100%	\$116,525,500

Hazard/ Neighborhood	Neighborhood Type	Est. Number of Structures	Avg. Value of Each Structure	Percent Structures Considered at Risk	Total Est. Value of Structures at Risk
<i>Economic Crisis</i>					
Basin City	Mixed Use	653	\$91,536	100%	\$59,773,200
Connell	Mixed Use	149	\$108,939	100%	\$16,231,900
Juniper Dunes	Mixed Use	345	\$134,766	100%	\$46,494,300
Eltopia	Mixed Use	596	\$82,610	100%	\$49,235,300
Kahlotus	Mixed Use	72	\$50,108	100%	\$3,607,800
North Pasco	Mixed Use	723	\$159,226	100%	\$115,120,700
Riverview	Mixed Use	1099	\$106,029	100%	\$116,525,500
<i>Flooding</i>					
Connell	Mixed Use	149	\$108,939	10%	\$1,623,190
Eltopia	Mixed Use	596	\$82,610	10%	\$4,923,530
Kahlotus	Mixed Use	72	\$50,108	5%	\$180,390
North Pasco	Mixed Use	723	\$159,226	10%	\$11,512,070
Riverview	Mixed Use	1099	\$106,029	100%	\$116,525,500
<i>Hail</i>					
Basin City	Mixed Use	653	\$91,536	100%	\$59,773,200
Connell	Mixed Use	149	\$108,939	100%	\$16,231,900
Juniper Dunes	Mixed Use	345	\$134,766	100%	\$46,494,300
Eltopia	Mixed Use	596	\$82,610	100%	\$49,235,300
Kahlotus	Mixed Use	72	\$50,108	100%	\$3,607,800
North Pasco	Mixed Use	723	\$159,226	100%	\$115,120,700
Riverview	Mixed Use	1099	\$106,029	100%	\$116,525,500
<i>Hazardous Materials</i>					
Basin City	Mixed Use	653	\$91,536	100%	\$59,773,200
Connell	Mixed Use	149	\$108,939	100%	\$16,231,900
Juniper Dunes	Mixed Use	345	\$134,766	100%	\$46,494,300
Eltopia	Mixed Use	596	\$82,610	100%	\$49,235,300
Kahlotus	Mixed Use	72	\$50,108	100%	\$3,607,800
North Pasco	Mixed Use	723	\$159,226	100%	\$115,120,700
Riverview	Mixed Use	1099	\$106,029	100%	\$116,525,500
<i>High Winds</i>					
Basin City	Mixed Use	653	\$91,536	100%	\$59,773,200
Connell	Mixed Use	149	\$108,939	100%	\$16,231,900
Juniper Dunes	Mixed Use	345	\$134,766	100%	\$46,494,300
Eltopia	Mixed Use	596	\$82,610	100%	\$49,235,300
Kahlotus	Mixed Use	72	\$50,108	100%	\$3,607,800

Hazard/ Neighborhood	Neighborhood Type	Est. Number of Structures	Avg. Value of Each Structure	Percent Structures Considered at Risk	Total Est. Value of Structures at Risk
North Pasco	Mixed Use	723	\$159,226	100%	\$115,120,700
Riverview	Mixed Use	1099	\$106,029	100%	\$116,525,500
<i>Infestation, Disease</i>					
Basin City	Mixed Use	653	\$91,536	100%	\$59,773,200
Connell	Mixed Use	149	\$108,939	100%	\$16,231,900
Juniper Dunes	Mixed Use	345	\$134,766	100%	\$46,494,300
Eltopia	Mixed Use	596	\$82,610	100%	\$49,235,300
Kahlotus	Mixed Use	72	\$50,108	100%	\$3,607,800
North Pasco	Mixed Use	723	\$159,226	100%	\$115,120,700
Riverview	Mixed Use	1099	\$106,029	100%	\$116,525,500
<i>Loss of Electrical Service</i>					
Basin City	Mixed Use	653	\$91,536	100%	\$59,773,200
Connell	Mixed Use	149	\$108,939	100%	\$16,231,900
Juniper Dunes	Mixed Use	345	\$134,766	100%	\$46,494,300
Eltopia	Mixed Use	596	\$82,610	100%	\$49,235,300
Kahlotus	Mixed Use	72	\$50,108	100%	\$3,607,800
North Pasco	Mixed Use	723	\$159,226	100%	\$115,120,700
Riverview	Mixed Use	1099	\$106,029	100%	\$116,525,500
<i>Loss of Gas Service</i>					
Connell	Mixed Use	149	\$108,939	5%	\$811,595
North Pasco	Mixed Use	723	\$159,226	5%	\$5,756,035
Riverview	Mixed Use	1099	\$106,029	100%	\$116,525,500
<i>Loss of Sewer Service</i>					
Basin City	Mixed Use	653	\$91,536	100%	\$59,773,200
Connell	Mixed Use	149	\$108,939	100%	\$16,231,900
Juniper Dunes	Mixed Use	345	\$134,766	100%	\$46,494,300
Eltopia	Mixed Use	596	\$82,610	100%	\$49,235,300
Kahlotus	Mixed Use	72	\$50,108	100%	\$3,607,800
North Pasco	Mixed Use	723	\$159,226	100%	\$115,120,700
Riverview	Mixed Use	1099	\$106,029	100%	\$116,525,500
<i>Loss of Water Service</i>					
Basin City	Mixed Use	653	\$91,536	100%	\$59,773,200
Connell	Mixed Use	149	\$108,939	100%	\$16,231,900
Juniper Dunes	Mixed Use	345	\$134,766	100%	\$46,494,300
Eltopia	Mixed Use	596	\$82,610	100%	\$49,235,300
Kahlotus	Mixed Use	72	\$50,108	100%	\$3,607,800

Hazard/ Neighborhood	Neighborhood Type	Est. Number of Structures	Avg. Value of Each Structure	Percent Structures Considered at Risk	Total Est. Value of Structures at Risk
North Pasco	Mixed Use	723	\$159,226	100%	\$115,120,700
Riverview	Mixed Use	1099	\$106,029	100%	\$116,525,500
<i>Major Fire - Urban</i>					
Basin City	Mixed Use	653	\$91,536	100%	\$59,773,200
Connell	Mixed Use	149	\$108,939	100%	\$16,231,900
North Pasco	Mixed Use	723	\$159,226	100%	\$115,120,700
Riverview	Mixed Use	1099	\$106,029	30%	\$34,957,650
<i>Major Fire - Wildland</i>					
Basin City	Mixed Use	653	\$91,536	100%	\$59,773,200
Connell	Mixed Use	149	\$108,939	100%	\$16,231,900
Juniper Dunes	Mixed Use	345	\$134,766	100%	\$46,494,300
Eltopia	Mixed Use	596	\$82,610	100%	\$49,235,300
Kahlotus	Mixed Use	72	\$50,108	100%	\$3,607,800
North Pasco	Mixed Use	723	\$159,226	100%	\$115,120,700
Riverview	Mixed Use	1099	\$106,029	100%	\$116,525,500
<i>Radiological</i>					
Basin City	Mixed Use	653	\$91,536	100%	\$59,773,200
Connell	Mixed Use	149	\$108,939	100%	\$16,231,900
Juniper Dunes	Mixed Use	345	\$134,766	100%	\$46,494,300
Eltopia	Mixed Use	596	\$82,610	100%	\$49,235,300
Kahlotus	Mixed Use	72	\$50,108	100%	\$3,607,800
North Pasco	Mixed Use	723	\$159,226	100%	\$115,120,700
Riverview	Mixed Use	1099	\$106,029	100%	\$116,525,500
<i>Severe Winter Storm</i>					
Basin City	Mixed Use	653	\$91,536	100%	\$59,773,200
Connell	Mixed Use	149	\$108,939	100%	\$16,231,900
Juniper Dunes	Mixed Use	345	\$134,766	100%	\$46,494,300
Eltopia	Mixed Use	596	\$82,610	100%	\$49,235,300
Kahlotus	Mixed Use	72	\$50,108	100%	\$3,607,800
North Pasco	Mixed Use	723	\$159,226	100%	\$115,120,700
Riverview	Mixed Use	1099	\$106,029	100%	\$116,525,500
<i>Telecommunications Failure</i>					
Basin City	Mixed Use	653	\$91,536	100%	\$59,773,200
Connell	Mixed Use	149	\$108,939	100%	\$16,231,900
Juniper Dunes	Mixed Use	345	\$134,766	100%	\$46,494,300
Eltopia	Mixed Use	596	\$82,610	100%	\$49,235,300

Hazard/ Neighborhood	Neighborhood Type	Est. Number of Structures	Avg. Value of Each Structure	Percent Structures Considered at Risk	Total Est. Value of Structures at Risk
Kahlotus	Mixed Use	72	\$50,108	100%	\$3,607,800
North Pasco	Mixed Use	723	\$159,226	100%	\$115,120,700
Riverview	Mixed Use	1099	\$106,029	100%	\$116,525,500
<i>Volcanic Activity</i>					
Basin City	Mixed Use	653	\$91,536	100%	\$59,773,200
Connell	Mixed Use	149	\$108,939	100%	\$16,231,900
Juniper Dunes	Mixed Use	345	\$134,766	100%	\$46,494,300
Eltopia	Mixed Use	596	\$82,610	100%	\$49,235,300
Kahlotus	Mixed Use	72	\$50,108	100%	\$3,607,800
North Pasco	Mixed Use	723	\$159,226	100%	\$115,120,700
Riverview	Mixed Use	1099	\$106,029	100%	\$116,525,500

To make jurisdiction-wide analysis of the dollar value of properties at risk for each hazard type feasible and practical for mitigation planning purposes, a simplified approach has been used. The estimate of the dollar value of properties at risk for specific hazards is accomplished in the following manner: The number of structures in a specific neighborhood and the average dollar value for those structures is estimated by local planners, based on readily available data or their best judgment in the absence of suitable data. The percentage of the specific neighborhood threatened by the identified hazard is then estimated by local planners, again based on readily available data or their best judgment. The percent of the neighborhood at risk is then used as a multiplier to determine the estimated number of structures at risk from that hazard. This number is then multiplied by the estimated average cost of the structures to derive an estimated total value of the property at risk of damage in that neighborhood from the identified hazard. The methodology is simplistic but conservative in that it assumes structures are uniformly distributed throughout the neighborhood in relation to the area of risk, that the hazard threatens the entire value of each structure, and that structures are equally vulnerable to the impacts of the hazard. The derived estimates for the dollar value of property at risk may therefore be higher than would actually be the case, but the estimates are considered satisfactory to support the local mitigation planning process.

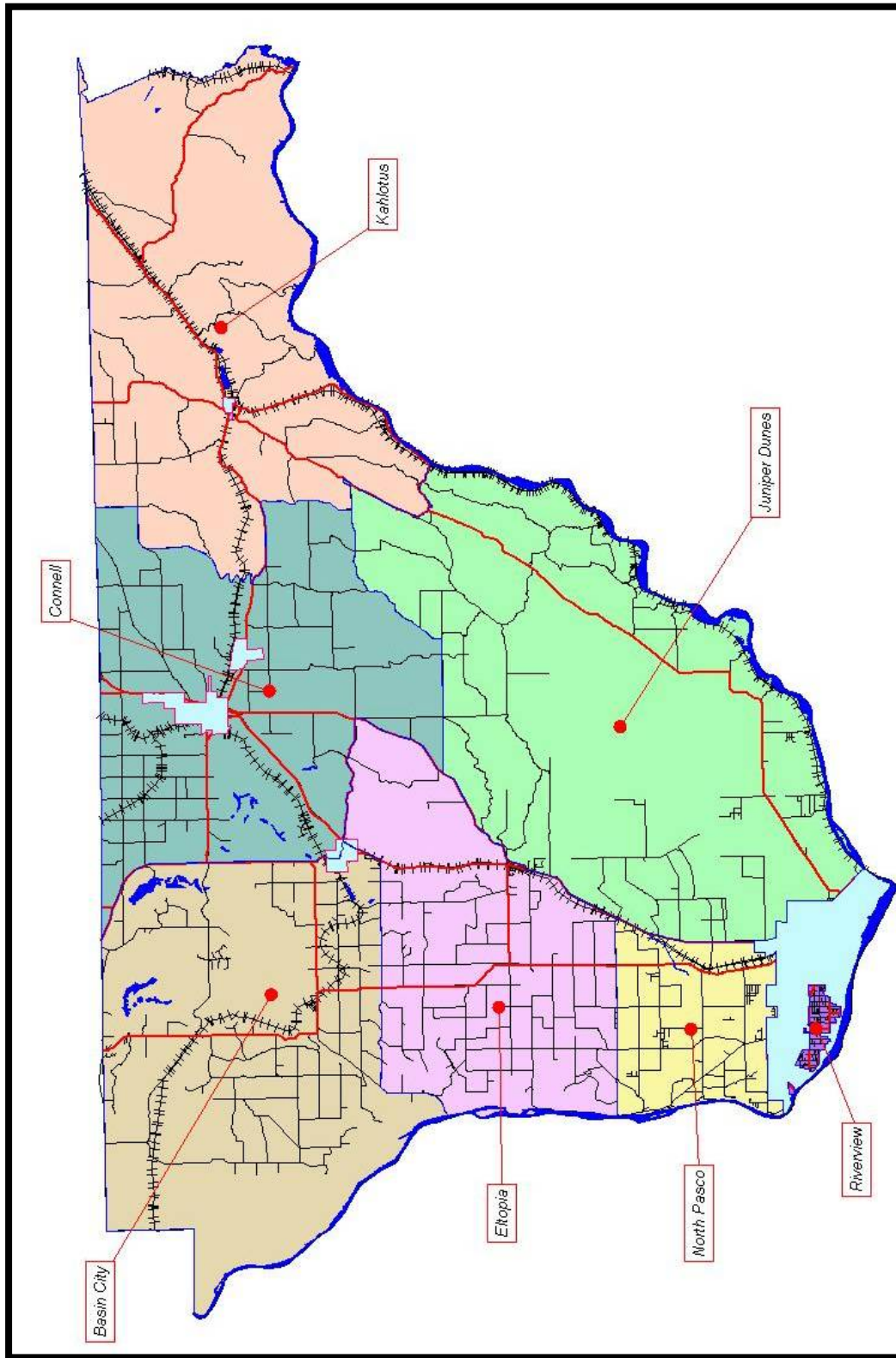


Figure 1: Unincorporated Franklin County Neighborhoods Map

City of Pasco

The purpose of this section of the plan is to assess the vulnerability of the City of Pasco in regards to the various hazards previously identified in Chapter 2 of this plan. In addition, mitigation strategies that are currently in place relating to these hazards as well as newly proposed mitigation strategies have been included in this section of the plan. To complete the vulnerability assessment process, various city staff utilized a series of forms available in the 20/20 Mitigation Software. The information collected with these forms is included in this portion of the plan.

As part of the vulnerability assessment process, City of Pasco government completed an inventory of all critical facilities and has considered these critical facilities in our planning and mitigation strategy development process. However, due to post 9/11 concerns, those facilities are not listed separately in this document. A list of these facilities will be made available to FEMA personnel in the event this information is required to obtain future hazard mitigation grant funding.

Representatives from City of Pasco government worked closely with other agencies and Franklin County Emergency Management staff to develop a comprehensive, coordinated mitigation plan intended to reduce the vulnerability to hazards within Pasco. The information contained in this document presents the results of this effort to identify the specific hazards threatening Pasco, to characterize the vulnerability of Pasco regarding these hazards, and to identify current as well as proposed mitigation strategies, projects and/or programs to address those vulnerabilities.

The assessment is based on the best currently available information and data regarding the characteristics of the neighborhoods identified, the hazards that threaten the people, property, and environment of these neighborhoods as well as the impacts these neighborhoods have suffered in past disasters. This information includes, when available, United States Census data, local tax records, local and national geographic information system data, Flood Insurance Rate Maps, hazard specific analyses, and other environmental and demographic facts.

However, very often authoritative or current information simply was not available for the planning effort. In these cases, the experience, knowledge and judgment of local officials representing City of Pasco government were used in the planning, including assumptions and approximations that were believed to be reasonable. In addition, straight-forward, simplified technical analyses were used for tasks such as estimating property values, determining the size of populations affected, and so forth. The reliance on the judgment of knowledgeable officials and simplified analyses is considered acceptable at this stage to allow the participating organizations to complete the tasks needed to develop this multi-jurisdictional hazard mitigation plan. As the planning continues in future years, or at the time when a proposed mitigation initiative is intended to be funded and/or implemented, the participating organizations/jurisdictions recognize that additional information and analyses may be required. City of Pasco government is committed to the implementation of the mitigation-related projects/programs described in this section of

the plan when and if resources become available. City of Pasco government is also committed to continuing the mitigation planning process that has resulted in the development of this document, and to the ongoing cooperation with other agencies, organizations, and jurisdictions to make the City of Pasco more resistant to the damages and hardships that could otherwise be the result of future disasters.

Pasco Overview

Contact Information: Gary Crutchfield, City Manager

City of Pasco

P.O. Box 293

Pasco, WA 99301

Telephone: (509) 545-3405

Population of Jurisdiction: 37,580 and growing rapidly

Principal Economic Base: Agricultural

Economic Characteristic: Average for the State

Current Hazard Mitigation Codes/Plans/Ordinances:

- Comprehensive Land Use Plan
- Adopted Land Use/Zoning Code
- Adopted Fire or Life Safety Code
- Adopted Building Code (State-approved 1997 Uniform Building Code)
- Municipal Code
- Flood Damage Prevention Ordinances
- Participation in NFIP Program

Jurisdiction-Specific Vulnerability Assessment & Mitigation Strategies

Current Land Uses and Potential for New Development

53 percent (17.82 square miles) of the jurisdiction remains to be developed

Current Land Use Category	Percent of Jurisdiction
Agricultural	31%
Commercial	6%
Industrial	3%
Institutional (education, health care, etc.)	1%
Parks/restricted wild land/wildlife refuge	4%
Residential	18%
Transportation or utility right-of-way	18%
Waterway/lake/wetland	11%
Developed with Mixed Uses	1%
Other land use	5%

Future Land Use

The current rate of new development of vacant or unused land is occurring rapidly or

somewhat faster than planned.

The current rate of expansion, reconstruction or redevelopment of existing properties is occurring in a few locations.

Development/Redevelopment Currently Controlled By:

- A building code (1997 State-approved UBC)
- A land use plan
- A zoning code
- Hazard-specific ordinance: Floods

Future Land Use Category (planning year 2006)	Percent of Jurisdiction
Agricultural	29%
Commercial	7%
Industrial	3%
Institutional (education, health care, etc.)	1%
Parks/restricted wild land/wildlife refuge	4%
Residential	19%
Transportation or utility right-of-way	19%
Waterway/lake/wetland	11%
Developed with Mixed Uses	1%
Other land use	5%

Comparison of Jurisdictional Relative Risk

Hazard	Probability of Occurrence	Impacted Area	Health & Safety Impacts	Property Impacts	Environmental Impacts	Economic Impacts	Total Hazard Rating
Natural		Total Natural Hazard Risk Rating: 278					
Drought	4	4	0	0	0	1	20
Earthquake	3	4	1	1	1	2	27
Flooding	2	1	1	1	1	2	12
Hail	4	4	1	1	0	1	28
High Winds	5	4	1	1	0	1	35
Infestation, Disease	4	4	2	0	1	3	40
Landslide, Erosion	1	0	0	0	0	0	0
Lightning	4	4	0	0	0	1	20
Major Fire - Urban	4	4	1	2	1	2	40
Major Fire – Wildland	2	1	0	1	0	1	6
Severe Winter Storm	4	4	1	1	0	2	32

Hazard	Probability of Occurrence	Impacted Area	Health & Safety Impacts	Property Impacts	Environmental Impacts	Economic Impacts	Total Hazard Rating
Subsidence/ Expansive Soils	1	0	0	0	0	0	0
Volcano Activity	2	4	1	1	1	2	18
Societal		Total Societal Hazard Risk Rating: 68					
Civil Disturbance	1	0	0	0	0	0	0
Crime	5	4	2	1	0	1	40
Economic Crisis	2	4	0	0	0	3	14
Key Employer Crisis	2	1	0	0	0	1	4
Terrorism	1	4	2	1	0	3	10
Technological		Total Technological Hazard Risk Rating: 155					
Hazardous Materials	4	4	1	1	1	2	36
Loss of Electrical Service	4	4	0	0	0	2	24
Loss of Gas Service	2	4	1	1	1	2	18
Loss of Sewer Service	2	4	1	0	1	2	16
Loss of Water Service	3	4	1	0	0	2	21
Radiological	2	4	1	1	2	3	22
Telecommunications Failure	3	4	0	0	0	2	18
		Total Risk Rating: 501					

NOTE: See table below for explanation of ratings.

<i>Impact Area</i>	<i>Probability of Occurrence</i>	<i>Health & Safety Impacts</i>
0 No developed area impacted	1 Unknown but rare occurrence	0 No Health and Safety impact
1 Less than 25% of developed areas impacted	2 Unknown but anticipate an occurrence	1 Few injuries/illnesses
2 Less than 50% of developed area impacted	3 100 years or less occurrence	2 Few fatalities but many injuries/illnesses
3 Less than 75% of developed area impacted	4 25 years or less occurrence	3 Numerous fatalities
4 Over 75% of developed area impacted	5 Once a year or more occurrence	

<i>Property Impacts</i>	<i>Environmental Impacts</i>	<i>Economic Impacts</i>
0 No property damage	0 Little or no environmental damage	0 No economic impact
1 Few properties destroyed - few properties damaged	1 Resources damaged with short term recovery practical	1 Low direct and/or low indirect costs

<i>Property Impacts</i>	<i>Environmental Impacts</i>	<i>Economic Impacts</i>
2 Few destroyed - many damaged	2 Resources damaged with long term recovery feasible	2 High direct & low indirect costs
2 Few damaged - many destroyed	3 Resources destroyed beyond recovery	2 Low direct & high indirect costs
3 Many properties destroyed and damaged		3 High direct & high indirect costs

Neighborhood Types and Structure Characteristics

Neighborhood	Type Neighborhood	Predominant Structure Type	Number of Structures	Average Value of Structures
Airport	Industrial	Wood Frame	390	\$117,141
Broadmoor	Mixed Use	Mixed Structure Type	1011	\$129,617
Central Core	Mixed Use	Mixed Structure Type	4473	\$48,039
Columbia Bend	Residential	Mixed Structure Type	274	\$153,797
Desert Plateau	Residential	Wood Frame	1583	\$120,335
King City	Industrial	Mixed Structure Type	140	\$1,021,769
Port	Industrial	Mixed Structure Type	281	\$334,545
Riverview East	Residential	Wood Frame	1701	\$13,400
Riverview West	Residential	Mixed Structure Type	434	\$130,558
Whittier	Mixed Use	Mixed Structure Type	1045	\$70,008

Estimated Population at Risk by Hazard

Hazard/Neighborhood	Neighborhood Type	Estimated Population	Percent Population Considered at Risk	Total Estimated Population at Risk
<i>Civil Disturbance</i>				
Airport	Industrial	4,332	100%	4,332
Riverview West	Residential	3,575	100%	3,575
<i>Crime</i>				
Airport	Industrial	4,332	100%	4,332
Broadmoor	Mixed Use	1,889	100%	1,889

Hazard/Neighborhood	Neighborhood Type	Estimated Population	Percent Population Considered at Risk	Total Estimated Population at Risk
Central Core	Mixed Use	12,000	100%	12,000
Columbia Bend	Residential	900	100%	900
Desert Plateau	Residential	4,622	100%	4,622
King City	Industrial	300	100%	300
Port	Industrial	400	100%	400
Riverview East	Residential	3,369	100%	3,369
Riverview West	Residential	3,575	100%	3,575
Whittier	Mixed Use	3,126	100%	3,126
<i>Drought</i>				
Airport	Industrial	4,332	50%	2,166
Columbia Bend	Residential	900	50%	450
King City	Industrial	300	50%	150
Riverview West	Residential	3,575	100%	3,575
<i>Earthquake</i>				
Airport	Industrial	4,332	100%	4,332
Broadmoor	Mixed Use	1,889	100%	1,889
Central Core	Mixed Use	12,000	100%	12,000
Columbia Bend	Residential	900	100%	900
Desert Plateau	Residential	4,622	100%	4,622
King City	Industrial	300	100%	300
Port	Industrial	400	100%	400
Riverview East	Residential	3,369	100%	3,369
Riverview West	Residential	3,575	100%	3,575
Whittier	Mixed Use	3,126	100%	3,126
<i>Economic Crisis</i>				
Airport	Industrial	4,332	100%	4,332
Broadmoor	Mixed Use	1,889	100%	1,889
Central Core	Mixed Use	12,000	100%	12,000
Columbia Bend	Residential	900	100%	900
Desert Plateau	Residential	4,622	100%	4,622
King City	Industrial	300	100%	300
Port	Industrial	400	100%	400
Riverview East	Residential	3,369	100%	3,369
Riverview West	Residential	3,575	100%	3,575
Whittier	Mixed Use	3,126	100%	3,126
<i>Flooding</i>				
Central Core	Mixed Use	12,000	25%	3,000

Hazard/Neighborhood	Neighborhood Type	Estimated Population	Percent Population Considered at Risk	Total Estimated Population at Risk
Columbia Bend	Residential	900	50%	450
Port	Industrial	400	75%	300
Riverview East	Residential	3,369	50%	1,685
Riverview West	Residential	3,575	25%	894
<i>Hail</i>				
Airport	Industrial	4,332	100%	4,332
Broadmoor	Mixed Use	1,889	100%	1,889
Central Core	Mixed Use	12,000	100%	12,000
Columbia Bend	Residential	900	100%	900
Desert Plateau	Residential	4,622	100%	4,622
King City	Industrial	300	100%	300
Port	Industrial	400	100%	400
Riverview East	Residential	3,369	100%	3,369
Riverview West	Residential	3,575	100%	3,575
Whittier	Mixed Use	3,126	100%	3,126
<i>Hazardous Materials</i>				
Airport	Industrial	4,332	100%	4,332
Broadmoor	Mixed Use	1,889	100%	1,889
Central Core	Mixed Use	12,000	100%	12,000
Columbia Bend	Residential	900	100%	900
Desert Plateau	Residential	4,622	100%	4,622
King City	Industrial	300	100%	300
Port	Industrial	400	100%	400
Riverview East	Residential	3,369	100%	3,369
Riverview West	Residential	3,575	100%	3,575
Whittier	Mixed Use	3,126	100%	3,126
<i>High Winds</i>				
Airport	Industrial	4,332	100%	4,332
Broadmoor	Mixed Use	1,889	100%	1,889
Central Core	Mixed Use	12,000	100%	12,000
Columbia Bend	Residential	900	100%	900
Desert Plateau	Residential	4,622	100%	4,622
King City	Industrial	300	100%	300
Port	Industrial	400	100%	400
Riverview East	Residential	3,369	100%	3,369
Riverview West	Residential	3,575	100%	3,575
Whittier	Mixed Use	3,126	100%	3,126

Hazard/Neighborhood	Neighborhood Type	Estimated Population	Percent Population Considered at Risk	Total Estimated Population at Risk
<i>Infestation, Disease</i>				
Airport	Industrial	4,332	100%	4,332
Broadmoor	Mixed Use	1,889	100%	1,889
Central Core	Mixed Use	12,000	100%	12,000
Columbia Bend	Residential	900	100%	900
Desert Plateau	Residential	4,622	100%	4,622
King City	Industrial	300	100%	300
Port	Industrial	400	100%	400
Riverview East	Residential	3,369	100%	3,369
Riverview West	Residential	3,575	100%	3,575
Whittier	Mixed Use	3,126	100%	3,126
<i>Key Employer Crisis</i>				
King City	Industrial	300	25%	75
Port	Industrial	400	50%	200
Riverview East	Residential	3,369	10%	337
Riverview West	Residential	3,575	100%	3,575
Whittier	Mixed Use	3,126	100%	3,126
<i>Landslide, Erosion</i>				
Columbia Bend	Residential	900	25%	225
<i>Lightning</i>				
Airport	Industrial	4,332	100%	4,332
Broadmoor	Mixed Use	1,889	100%	1,889
Central Core	Mixed Use	12,000	100%	12,000
Columbia Bend	Residential	900	100%	900
Desert Plateau	Residential	4,622	100%	4,622
King City	Industrial	300	100%	300
Port	Industrial	400	100%	400
Riverview East	Residential	3,369	100%	3,369
Riverview West	Residential	3,575	100%	3,575
Whittier	Mixed Use	3,126	100%	3,126
<i>Loss of Electrical Service</i>				
Airport	Industrial	4,332	100%	4,332
Broadmoor	Mixed Use	1,889	100%	1,889
Central Core	Mixed Use	12,000	100%	12,000
Columbia Bend	Residential	900	100%	900
Desert Plateau	Residential	4,622	100%	4,622
King City	Industrial	300	100%	300

Hazard/Neighborhood	Neighborhood Type	Estimated Population	Percent Population Considered at Risk	Total Estimated Population at Risk
Port	Industrial	400	100%	400
Riverview East	Residential	3,369	100%	3,369
Riverview West	Residential	3,575	100%	3,575
Whittier	Mixed Use	3,126	100%	3,126
<i>Loss of Gas Service</i>				
Airport	Industrial	4,332	100%	4,332
Broadmoor	Mixed Use	1,889	100%	1,889
Central Core	Mixed Use	12,000	100%	12,000
Columbia Bend	Residential	900	100%	900
Desert Plateau	Residential	4,622	100%	4,622
King City	Industrial	300	100%	300
Port	Industrial	400	100%	400
Riverview East	Residential	3,369	75%	2,527
Riverview West	Residential	3,575	50%	1,788
Whittier	Mixed Use	3,126	100%	3,126
<i>Loss of Sewer Service</i>				
Airport	Industrial	4,332	100%	4,332
Broadmoor	Mixed Use	1,889	100%	1,889
Central Core	Mixed Use	12,000	100%	12,000
Columbia Bend	Residential	900	100%	900
Desert Plateau	Residential	4,622	100%	4,622
King City	Industrial	300	100%	300
Port	Industrial	400	100%	400
Riverview East	Residential	3,369	100%	3,369
Riverview West	Residential	3,575	100%	3,575
Whittier	Mixed Use	3,126	100%	3,126
<i>Loss of Water Service</i>				
Airport	Industrial	4,332	100%	4,332
Broadmoor	Mixed Use	1,889	100%	1,889
Central Core	Mixed Use	12,000	100%	12,000
Columbia Bend	Residential	900	100%	900
Desert Plateau	Residential	4,622	100%	4,622
King City	Industrial	300	100%	300
Port	Industrial	400	100%	400
Riverview East	Residential	3,369	100%	3,369
Riverview West	Residential	3,575	100%	3,575
Whittier	Mixed Use	3,126	100%	3,126

Hazard/Neighborhood	Neighborhood Type	Estimated Population	Percent Population Considered at Risk	Total Estimated Population at Risk
<i>Major Fire - Urban</i>				
Airport	Industrial	4,332	50%	2,166
Broadmoor	Mixed Use	1,889	100%	1,889
Central Core	Mixed Use	12,000	100%	12,000
Columbia Bend	Residential	900	20%	180
Desert Plateau	Residential	4,622	50%	2,311
King City	Industrial	300	25%	75
Port	Industrial	400	50%	200
Riverview East	Residential	3,369	50%	1,685
Riverview West	Residential	3,575	50%	1,788
Whittier	Mixed Use	3,126	50%	1,563
<i>Major Fire - Wildland</i>				
Airport	Industrial	4,332	25%	1,083
Broadmoor	Mixed Use	1,889	50%	945
Central Core	Mixed Use	12,000	10%	1,200
Columbia Bend	Residential	900	50%	450
Desert Plateau	Residential	4,622	50%	2,311
King City	Industrial	300	50%	150
Port	Industrial	400	50%	200
Riverview West	Residential	3,575	50%	1,788
Whittier	Mixed Use	3,126	50%	1,563
<i>Radiological</i>				
Airport	Industrial	4,332	100%	4,332
Broadmoor	Mixed Use	1,889	100%	1,889
Central Core	Mixed Use	12,000	100%	12,000
Columbia Bend	Residential	900	100%	900
Desert Plateau	Residential	4,622	100%	4,622
King City	Industrial	300	100%	300
Port	Industrial	400	100%	400
Riverview East	Residential	3,369	100%	3,369
Riverview West	Residential	3,575	100%	3,575
Whittier	Mixed Use	3,126	100%	3,126
<i>Severe Winter Storm</i>				
Airport	Industrial	4,332	100%	4,332
Broadmoor	Mixed Use	1,889	100%	1,889
Central Core	Mixed Use	12,000	100%	12,000
Columbia Bend	Residential	900	100%	900
Desert Plateau	Residential	4,622	100%	4,622

Hazard/Neighborhood	Neighborhood Type	Estimated Population	Percent Population Considered at Risk	Total Estimated Population at Risk
King City	Industrial	300	100%	300
Port	Industrial	400	100%	400
Riverview East	Residential	3,369	100%	3,369
Riverview West	Residential	3,575	100%	3,575
Whittier	Mixed Use	3,126	100%	3,126
<i>Telecommunications</i>				
Airport	Industrial	4,332	100%	4,332
Broadmoor	Mixed Use	1,889	100%	1,889
Central Core	Mixed Use	12,000	100%	12,000
Columbia Bend	Residential	900	100%	900
Desert Plateau	Residential	4,622	100%	4,622
King City	Industrial	300	100%	300
Port	Industrial	400	100%	400
Riverview East	Residential	3,369	100%	3,369
Riverview West	Residential	3,575	100%	3,575
Whittier	Mixed Use	3,126	100%	3,126
<i>Volcano Activity</i>				
Airport	Industrial	4,332	100%	4,332
Broadmoor	Mixed Use	1,889	100%	1,889
Central Core	Mixed Use	12,000	100%	12,000
Columbia Bend	Residential	900	100%	900
Desert Plateau	Residential	4,622	100%	4,622
King City	Industrial	300	100%	300
Port	Industrial	400	100%	400
Riverview East	Residential	3,369	100%	3,369
Riverview West	Residential	3,575	100%	3,575
Whittier	Mixed Use	3,126	100%	3,126

To make jurisdiction-wide analysis of the population at risk for each hazard type feasible and practical for mitigation planning purposes, a simplified approach has been used. The estimate of the population at risk for specific hazards is accomplished in the following manner: The population in a specific neighborhood is estimated by local planners, based on readily available data or their best judgment in the absence of suitable data. The population could be residents, workers, visitors, institutionalized individuals, mixed population types, etc., depending on the characteristics of the neighborhood. The percentage of the area of the specific neighborhood threatened by the identified hazard is then estimated by local planners, again based on readily available data or their best judgment. The percent of the neighborhood at risk is then used as a multiplier to determine the estimated number of people at risk from that hazard. The methodology is

simplistic but conservative, in that it assumes occupied structures are uniformly distributed throughout the neighborhood in relation to the area of risk, that the population is present in the neighborhood on a 24 hour, 7 day basis, and that all individuals are equally vulnerable to the impacts of the hazard event. The derived estimates for the number of people at risk may therefore be higher than actually is the case, but the estimates are considered satisfactory to support the local mitigation planning process.

Estimated Value of Structures at Risk by Hazard

Hazard/ Neighborhood	Neighborhood Type	Est. Number of Structures	Avg. Value of Each Structure	Percent Structures Considered at Risk	Total Est. Value of Structures at Risk
<i>Civil Disturbance</i>					
Airport	Industrial	385	\$112,581	100%	\$43,343,511
Broadmoor	Mixed Use	1,010	\$115,884	100%	\$117,042,500
Central Core	Mixed Use	4,462	\$26,155	100%	\$116,703,320
Columbia Bend	Residential	274	\$153,797	100%	\$42,140,500
Desert Plateau	Residential	1,582	\$117,006	100%	\$185,103,300
King City	Industrial	140	\$1,021,769	100%	\$143,047,640
Port	Industrial	281	\$334,545	100%	\$94,007,234
Riverview East	Residential	1,700	\$10,269	100%	\$17,457,050
Riverview West	Residential	434	\$130,558	100%	\$56,662,000
Whittier	Mixed Use	1,044	\$65,169	100%	\$68,036,700
<i>Crime</i>					
Airport	Industrial	385	\$112,581	100%	\$43,343,511
Broadmoor	Mixed Use	1,010	\$115,884	100%	\$117,042,500
Central Core	Mixed Use	4,462	\$26,155	100%	\$116,703,320
Columbia Bend	Residential	274	\$153,797	100%	\$42,140,500
Desert Plateau	Residential	1,582	\$117,006	100%	\$185,103,300
King City	Industrial	140	\$1,021,769	100%	\$143,047,640
Port	Industrial	281	\$334,545	100%	\$94,007,234
Riverview East	Residential	1,700	\$10,269	100%	\$17,457,050
Riverview West	Residential	434	\$130,558	100%	\$56,662,000
Whittier	Mixed Use	1,044	\$65,169	100%	\$68,036,700
<i>Drought</i>					
Airport	Industrial	385	\$112,581	100%	\$43,343,511
Broadmoor	Mixed Use	1,010	\$115,884	100%	\$117,042,500
Central Core	Mixed Use	4,462	\$26,155	100%	\$116,703,320
Columbia Bend	Residential	274	\$153,797	100%	\$42,140,500
Desert Plateau	Residential	1,582	\$117,006	100%	\$185,103,300
King City	Industrial	140	\$1,021,769	100%	\$143,047,640
Port	Industrial	281	\$334,545	100%	\$94,007,234

Hazard/ Neighborhood	Neighborhood Type	Est. Number of Structures	Avg. Value of Each Structure	Percent Structures Considered at Risk	Total Est. Value of Structures at Risk
Riverview East	Residential	1,700	\$10,269	100%	\$17,457,050
Riverview West	Residential	434	\$130,558	100%	\$56,662,000
Whittier	Mixed Use	1,044	\$65,169	100%	\$68,036,700
<i>Earthquake</i>					
Airport	Industrial	385	\$112,581	100%	\$43,343,511
Broadmoor	Mixed Use	1,010	\$115,884	100%	\$117,042,500
Central Core	Mixed Use	4,462	\$26,155	100%	\$116,703,320
Columbia Bend	Residential	274	\$153,797	100%	\$42,140,500
Desert Plateau	Residential	1,582	\$117,006	100%	\$185,103,300
King City	Industrial	140	\$1,021,769	100%	\$143,047,640
Port	Industrial	281	\$334,545	100%	\$94,007,234
Riverview East	Residential	1,700	\$10,269	100%	\$17,457,050
Riverview West	Residential	434	\$130,558	100%	\$56,662,000
Whittier	Mixed Use	1,044	\$65,169	100%	\$68,036,700
<i>Economic Crisis</i>					
Airport	Industrial	385	\$112,581	100%	\$43,343,511
Broadmoor	Mixed Use	1,010	\$115,884	100%	\$117,042,500
Central Core	Mixed Use	4,462	\$26,155	100%	\$116,703,320
Columbia Bend	Residential	274	\$153,797	100%	\$42,140,500
Desert Plateau	Residential	1,582	\$117,006	100%	\$185,103,300
King City	Industrial	140	\$1,021,769	100%	\$143,047,640
Port	Industrial	281	\$334,545	100%	\$94,007,234
Riverview East	Residential	1,700	\$10,269	100%	\$17,457,050
Riverview West	Residential	434	\$130,558	100%	\$56,662,000
Whittier	Mixed Use	1,044	\$65,169	100%	\$68,036,700
<i>Flooding</i>					
Airport	Industrial	385	\$112,581	100%	\$43,343,511
Broadmoor	Mixed Use	1,010	\$115,884	100%	\$117,042,500
Central Core	Mixed Use	4,462	\$26,155	100%	\$116,703,320
Columbia Bend	Residential	274	\$153,797	100%	\$42,140,500
Desert Plateau	Residential	1,582	\$117,006	100%	\$185,103,300
King City	Industrial	140	\$1,021,769	100%	\$143,047,640
Port	Industrial	281	\$334,545	100%	\$94,007,234
Riverview East	Residential	1,700	\$10,269	100%	\$17,457,050
Riverview West	Residential	434	\$130,558	100%	\$56,662,000
Whittier	Mixed Use	1,044	\$65,169	100%	\$68,036,700
<i>Hail</i>					

Hazard/ Neighborhood	Neighborhood Type	Est. Number of Structures	Avg. Value of Each Structure	Percent Structures Considered at Risk	Total Est. Value of Structures at Risk
Airport	Industrial	385	\$112,581	100%	\$43,343,511
Broadmoor	Mixed Use	1,010	\$115,884	100%	\$117,042,500
Central Core	Mixed Use	4,462	\$26,155	100%	\$116,703,320
Columbia Bend	Residential	274	\$153,797	100%	\$42,140,500
Desert Plateau	Residential	1,582	\$117,006	100%	\$185,103,300
King City	Industrial	140	\$1,021,769	100%	\$143,047,640
Port	Industrial	281	\$334,545	100%	\$94,007,234
Riverview East	Residential	1,700	\$10,269	100%	\$17,457,050
Riverview West	Residential	434	\$130,558	100%	\$56,662,000
Whittier	Mixed Use	1,044	\$65,169	100%	\$68,036,700
<i>Hazardous Materials</i>					
Airport	Industrial	385	\$112,581	100%	\$43,343,511
Broadmoor	Mixed Use	1,010	\$115,884	100%	\$117,042,500
Central Core	Mixed Use	4,462	\$26,155	100%	\$116,703,320
Columbia Bend	Residential	274	\$153,797	100%	\$42,140,500
Desert Plateau	Residential	1,582	\$117,006	100%	\$185,103,300
King City	Industrial	140	\$1,021,769	100%	\$143,047,640
Port	Industrial	281	\$334,545	100%	\$94,007,234
Riverview East	Residential	1,700	\$10,269	100%	\$17,457,050
Riverview West	Residential	434	\$130,558	100%	\$56,662,000
Whittier	Mixed Use	1,044	\$65,169	100%	\$68,036,700
<i>High Winds</i>					
Airport	Industrial	385	\$112,581	100%	\$43,343,511
Broadmoor	Mixed Use	1,010	\$115,884	100%	\$117,042,500
Central Core	Mixed Use	4,462	\$26,155	100%	\$116,703,320
Columbia Bend	Residential	274	\$153,797	100%	\$42,140,500
Desert Plateau	Residential	1,582	\$117,006	100%	\$185,103,300
King City	Industrial	140	\$1,021,769	100%	\$143,047,640
Port	Industrial	281	\$334,545	100%	\$94,007,234
Riverview East	Residential	1,700	\$10,269	100%	\$17,457,050
Riverview West	Residential	434	\$130,558	100%	\$56,662,000
Whittier	Mixed Use	1,044	\$65,169	100%	\$68,036,700
<i>Infestation, Disease</i>					
Airport	Industrial	385	\$112,581	100%	\$43,343,511
Broadmoor	Mixed Use	1,010	\$115,884	100%	\$117,042,500
Central Core	Mixed Use	4,462	\$26,155	100%	\$116,703,320
Columbia Bend	Residential	274	\$153,797	100%	\$42,140,500
Desert Plateau	Residential	1,582	\$117,006	100%	\$185,103,300

Hazard/ Neighborhood	Neighborhood Type	Est. Number of Structures	Avg. Value of Each Structure	Percent Structures Considered at Risk	Total Est. Value of Structures at Risk
King City	Industrial	140	\$1,021,769	100%	\$143,047,640
Port	Industrial	281	\$334,545	100%	\$94,007,234
Riverview East	Residential	1,700	\$10,269	100%	\$17,457,050
Riverview West	Residential	434	\$130,558	100%	\$56,662,000
Whittier	Mixed Use	1,044	\$65,169	100%	\$68,036,700
<i>Loss of Electrical Service</i>					
Airport	Industrial	385	\$112,581	100%	\$43,343,511
Broadmoor	Mixed Use	1,010	\$115,884	100%	\$117,042,500
Central Core	Mixed Use	4,462	\$26,155	100%	\$116,703,320
Columbia Bend	Residential	274	\$153,797	100%	\$42,140,500
Desert Plateau	Residential	1,582	\$117,006	100%	\$185,103,300
King City	Industrial	140	\$1,021,769	100%	\$143,047,640
Port	Industrial	281	\$334,545	100%	\$94,007,234
Riverview East	Residential	1,700	\$10,269	100%	\$17,457,050
Riverview West	Residential	434	\$130,558	100%	\$56,662,000
Whittier	Mixed Use	1,044	\$65,169	100%	\$68,036,700
<i>Loss of Gas Service</i>					
Airport	Industrial	385	\$112,581	100%	\$43,343,511
Broadmoor	Mixed Use	1,010	\$115,884	100%	\$117,042,500
Central Core	Mixed Use	4,462	\$26,155	100%	\$116,703,320
Columbia Bend	Residential	274	\$153,797	100%	\$42,140,500
Desert Plateau	Residential	1,582	\$117,006	100%	\$185,103,300
King City	Industrial	140	\$1,021,769	100%	\$143,047,640
Port	Industrial	281	\$334,545	100%	\$94,007,234
Riverview East	Residential	1,700	\$10,269	100%	\$17,457,050
Riverview West	Residential	434	\$130,558	100%	\$56,662,000
Whittier	Mixed Use	1,044	\$65,169	100%	\$68,036,700
<i>Loss of Sewer Service</i>					
Airport	Industrial	385	\$112,581	100%	\$43,343,511
Broadmoor	Mixed Use	1,010	\$115,884	100%	\$117,042,500
Central Core	Mixed Use	4,462	\$26,155	100%	\$116,703,320
Columbia Bend	Residential	274	\$153,797	100%	\$42,140,500
Desert Plateau	Residential	1,582	\$117,006	100%	\$185,103,300
King City	Industrial	140	\$1,021,769	100%	\$143,047,640
Port	Industrial	281	\$334,545	100%	\$94,007,234
Riverview East	Residential	1,700	\$10,269	100%	\$17,457,050
Riverview West	Residential	434	\$130,558	100%	\$56,662,000

Hazard/ Neighborhood	Neighborhood Type	Est. Number of Structures	Avg. Value of Each Structure	Percent Structures Considered at Risk	Total Est. Value of Structures at Risk
Whittier	Mixed Use	1,044	\$65,169	100%	\$68,036,700
<i>Loss of Water Service</i>					
Airport	Industrial	385	\$112,581	100%	\$43,343,511
Broadmoor	Mixed Use	1,010	\$115,884	100%	\$117,042,500
Central Core	Mixed Use	4,462	\$26,155	100%	\$116,703,320
Columbia Bend	Residential	274	\$153,797	100%	\$42,140,500
Desert Plateau	Residential	1,582	\$117,006	100%	\$185,103,300
King City	Industrial	140	\$1,021,769	100%	\$143,047,640
Port	Industrial	281	\$334,545	100%	\$94,007,234
Riverview East	Residential	1,700	\$10,269	100%	\$17,457,050
Riverview West	Residential	434	\$130,558	100%	\$56,662,000
Whittier	Mixed Use	1,044	\$65,169	100%	\$68,036,700
<i>Major Fire - Urban</i>					
Airport	Industrial	385	\$112,581	100%	\$43,343,511
Broadmoor	Mixed Use	1,010	\$115,884	100%	\$117,042,500
Central Core	Mixed Use	4,462	\$26,155	100%	\$116,703,320
Columbia Bend	Residential	274	\$153,797	100%	\$42,140,500
Desert Plateau	Residential	1,582	\$117,006	100%	\$185,103,300
King City	Industrial	140	\$1,021,769	100%	\$143,047,640
Port	Industrial	281	\$334,545	100%	\$94,007,234
Riverview East	Residential	1,700	\$10,269	100%	\$17,457,050
Riverview West	Residential	434	\$130,558	100%	\$56,662,000
Whittier	Mixed Use	1,044	\$65,169	100%	\$68,036,700
<i>Major Fire - Wildland</i>					
Airport	Industrial	385	\$112,581	100%	\$43,343,511
Broadmoor	Mixed Use	1,010	\$115,884	100%	\$117,042,500
Central Core	Mixed Use	4,462	\$26,155	100%	\$116,703,320
Columbia Bend	Residential	274	\$153,797	100%	\$42,140,500
Desert Plateau	Residential	1,582	\$117,006	100%	\$185,103,300
King City	Industrial	140	\$1,021,769	100%	\$143,047,640
Port	Industrial	281	\$334,545	100%	\$94,007,234
Riverview East	Residential	1,700	\$10,269	100%	\$17,457,050
Riverview West	Residential	434	\$130,558	100%	\$56,662,000
Whittier	Mixed Use	1,044	\$65,169	100%	\$68,036,700
<i>Radiological</i>					
Airport	Industrial	385	\$112,581	100%	\$43,343,511
Broadmoor	Mixed Use	1,010	\$115,884	100%	\$117,042,500

Hazard/ Neighborhood	Neighborhood Type	Est. Number of Structures	Avg. Value of Each Structure	Percent Structures Considered at Risk	Total Est. Value of Structures at Risk
Central Core	Mixed Use	4,462	\$26,155	100%	\$116,703,320
Columbia Bend	Residential	274	\$153,797	100%	\$42,140,500
Desert Plateau	Residential	1,582	\$117,006	100%	\$185,103,300
King City	Industrial	140	\$1,021,769	100%	\$143,047,640
Port	Industrial	281	\$334,545	100%	\$94,007,234
Riverview East	Residential	1,700	\$10,269	100%	\$17,457,050
Riverview West	Residential	434	\$130,558	100%	\$56,662,000
Whittier	Mixed Use	1,044	\$65,169	100%	\$68,036,700
<i>Severe Winter Storm</i>					
Airport	Industrial	385	\$112,581	100%	\$43,343,511
Broadmoor	Mixed Use	1,010	\$115,884	100%	\$117,042,500
Central Core	Mixed Use	4,462	\$26,155	100%	\$116,703,320
Columbia Bend	Residential	274	\$153,797	100%	\$42,140,500
Desert Plateau	Residential	1,582	\$117,006	100%	\$185,103,300
King City	Industrial	140	\$1,021,769	100%	\$143,047,640
Port	Industrial	281	\$334,545	100%	\$94,007,234
Riverview East	Residential	1,700	\$10,269	100%	\$17,457,050
Riverview West	Residential	434	\$130,558	100%	\$56,662,000
Whittier	Mixed Use	1,044	\$65,169	100%	\$68,036,700
<i>Telecommunications</i>					
Airport	Industrial	385	\$112,581	100%	\$43,343,511
Broadmoor	Mixed Use	1,010	\$115,884	100%	\$117,042,500
Central Core	Mixed Use	4,462	\$26,155	100%	\$116,703,320
Columbia Bend	Residential	274	\$153,797	100%	\$42,140,500
Desert Plateau	Residential	1,582	\$117,006	100%	\$185,103,300
King City	Industrial	140	\$1,021,769	100%	\$143,047,640
Port	Industrial	281	\$334,545	100%	\$94,007,234
Riverview East	Residential	1,700	\$10,269	100%	\$17,457,050
Riverview West	Residential	434	\$130,558	100%	\$56,662,000
Whittier	Mixed Use	1,044	\$65,169	100%	\$68,036,700
<i>Volcanic Activity</i>					
Airport	Industrial	385	\$112,581	100%	\$43,343,511
Broadmoor	Mixed Use	1,010	\$115,884	100%	\$117,042,500
Central Core	Mixed Use	4,462	\$26,155	100%	\$116,703,320
Columbia Bend	Residential	274	\$153,797	100%	\$42,140,500
Desert Plateau	Residential	1,582	\$117,006	100%	\$185,103,300
King City	Industrial	140	\$1,021,769	100%	\$143,047,640
Port	Industrial	281	\$334,545	100%	\$94,007,234

Hazard/ Neighborhood	Neighborhood Type	Est. Number of Structures	Avg. Value of Each Structure	Percent Structures Considered at Risk	Total Est. Value of Structures at Risk
Riverview East	Residential	1,700	\$10,269	100%	\$17,457,050
Riverview West	Residential	434	\$130,558	100%	\$56,662,000
Whittier	Mixed Use	1,044	\$65,169	100%	\$68,036,700

To make jurisdiction-wide analysis of the dollar value of properties at risk for each hazard type feasible and practical for mitigation planning purposes, a simplified approach has been used. The estimate of the dollar value of properties at risk for specific hazards is accomplished in the following manner: The number of structures in a specific neighborhood and the average dollar value for those structures is estimated by local planners, based on readily available data or their best judgment in the absence of suitable data. The percentage of the specific neighborhood threatened by the identified hazard is then estimated by local planners, again based on readily available data or their best judgment. The percent of the neighborhood at risk is then used as a multiplier to determine the estimated number of structures at risk from that hazard. This number is then multiplied by the estimated average cost of the structures to derive an estimated total value of the property at risk of damage in that neighborhood from the identified hazard. The methodology is simplistic but conservative in that it assumes structures are uniformly distributed throughout the neighborhood in relation to the area of risk, the hazard threatens the entire value of each structure, and that structures are equally vulnerable to the impacts of the hazard. The derived estimates for the dollar value of property at risk may therefore be higher than would actually be the case, but the estimates are considered satisfactory to support the local mitigation planning process.

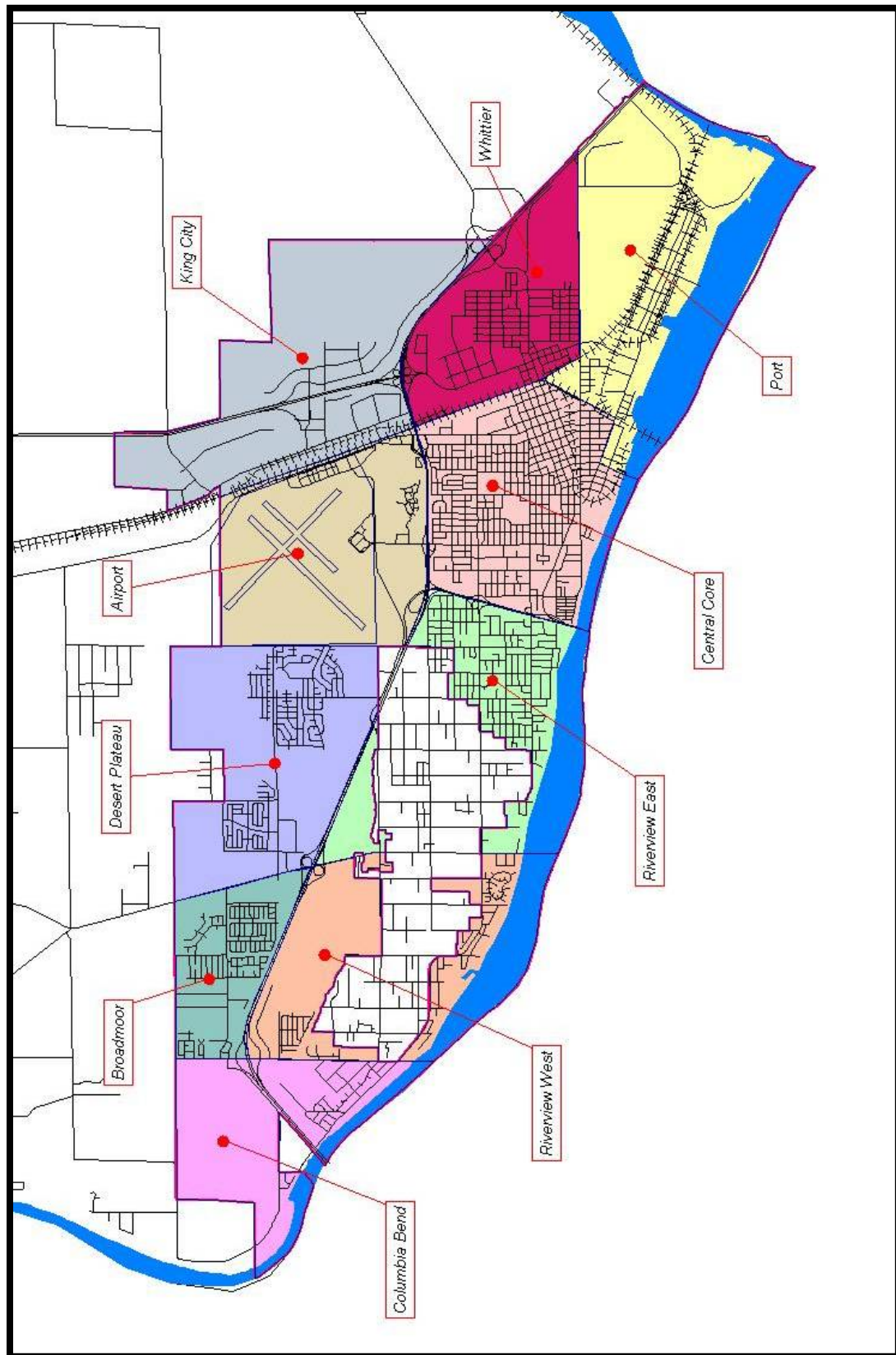


Figure 2: Pasco Neighborhoods Map

City of Connell

The purpose of this section of the plan is to assess the vulnerability of the City of Connell in regards to the various hazards previously identified in Chapter 2 of this plan. In addition, mitigation strategies that are currently in place relating to these hazards as well as newly proposed mitigation strategies have been included in this section of the plan. To complete the vulnerability assessment process, various city staff utilized a series of forms available in the 20/20 Mitigation Software. The information collected with these forms is included in this portion of the plan.

As part of the vulnerability assessment process, an inventory of all critical facilities was completed and these facilities have been considered in the planning and mitigation strategy development process. However, due to post 9/11 concerns, those facilities are not listed separately in this document. A list of these facilities will be made available to FEMA personnel in the event this information is required to obtain future hazard mitigation grant funding.

Representatives from City of Connell government worked with other agencies and Franklin County Emergency Management staff to develop a comprehensive, coordinated mitigation plan intended to reduce the vulnerability to hazards within Connell. The information contained in this document presents the results of this effort to identify the specific hazards threatening Connell, to characterize the vulnerability of Connell regarding these hazards, and to identify current as well as proposed mitigation strategies, projects and/or programs to address those vulnerabilities.

The assessment is based on the best currently available information and data regarding the characteristics of the neighborhoods identified, the hazards that threaten the people, property, and environment of these neighborhoods as well as the impacts these neighborhoods have suffered in past disasters. This information includes, when available, United States Census data, local tax records, local and national geographic information system data, Flood Insurance Rate Maps, hazard specific analyses, and other environmental and demographic facts.

However, very often authoritative or current information simply was not available for the planning effort. In these cases, the experience, knowledge and judgment of local officials representing City of Connell government were used in the planning, including assumptions and approximations that were believed to be reasonable. In addition, straight-forward, simplified technical analyses were used for tasks such as estimating property values, determining the size of populations affected, and so forth. The reliance on the judgment of knowledgeable officials and simplified analyses is considered acceptable at this stage to allow the participating organizations to complete the tasks needed to develop this multi-jurisdictional hazard mitigation plan. As the planning continues in future years, or at the time when a proposed mitigation initiative is intended to be funded and/or implemented, the participating organizations/jurisdictions recognize that additional information and analyses may be required. City of Connell government is committed to the implementation of the mitigation-related projects/programs described in this section of the plan when and if resources become available. City of Connell government is also committed to continuing the mitigation planning process that has resulted in the development of this document, and to the ongoing cooperation with other agencies, organizations, and

jurisdictions to make the City of Connell more resistant to the damages and hardships that could otherwise be the result of future disasters.

Connell Overview

Contact Information: Art Tackett, City Manager

City of Connell

P.O. Box 1200

Connell, WA 99326

Telephone: (509) 234-2701

Population of Jurisdiction: 3,100 and growing somewhat

Principal Economic Base: Agricultural

Economic Characteristic: Economically Disadvantaged

Current Hazard Mitigation Codes/Plans/Ordinances:

- Comprehensive Land Use Plan
- Adopted Land Use/Zoning Code
- Adopted Fire or Life Safety Code
- Adopted Building Code (State-approved 1997 Uniform Building Code)
- Municipal Code
- Zoning Ordinances
- Flood Damage Prevention Ordinances
- Participation in NFIP Program

Jurisdiction-Specific Vulnerability Assessment & Mitigation Strategies

Current Land Uses and Potential for New Development

50 percent (2.305 square miles) of the jurisdiction remains to be developed

Current Land Use Category	Percent of Jurisdiction
Agricultural	50%
Commercial	6%
Industrial	3%
Institutional (education, health care, etc.)	4%
Parks/restricted wild land/wildlife refuge	1%
Residential	10%
Transportation or utility right-of-way	2%
Vacant/unused - government ownership	13%
Vacant/unused - private ownership	10%
Waterway/lake/wetland	1%

Future Land Use

The current rate of development of vacant or unused land is occurring rapidly or somewhat faster than planned.

The current rate of expansion, reconstruction or redevelopment of existing properties is occurring in very few or no properties.

Development/Redevelopment Currently Controlled By:

- A building code (1997 State-approved UBC)
- A land use plan
- A zoning code
- Hazard-specific ordinance: Floods
- Other

Future Land Use Category (planning year 2006)	Percent of Jurisdiction
Agricultural	33%
Commercial	6%
Industrial	15%
Institutional (education, health care, etc.)	4%
Parks/restricted wild land/wildlife refuge	1%
Residential	15%
Transportation or utility right-of-way	2%
Vacant/unused - government ownership	13%
Vacant/unused - private ownership	10%
Waterway/lake/wetland	1%

Comparison of Jurisdictional Relative Risk

Hazard	Probability of Occurrence	Impacted Area	Health & Safety Impacts	Property Impacts	Environmental Impacts	Economic Impacts	Total Hazard Rating
Natural	Total Natural Hazard Risk Rating: 269						
Drought	2	0	0	0	0	2	4
Earthquake	2	2	2	2	1	3	20
Flooding	3	2	1	2	1	3	27
Hail	4	4	1	2	0	2	36
High Winds	5	4	1	2	0	2	45
Infestation, Disease	1	4	2	1	0	3	10
Landslide, Erosion	1	1	0	1	0	0	2
Lightning	1	0	0	0	0	0	0
Major Fire – Urban	3	4	1	1	1	2	27
Major Fire – Wildland	4	2	1	2	1	2	32
Severe Winter Storm	4	4	2	1	0	2	36
Subsidence/Expansive Soils	1	0	0	0	0	0	0
Volcano Activity	2	4	1	1	1	3	20

Hazard	Probability of Occurrence	Impacted Area	Health & Safety Impacts	Property Impacts	Environmental Impacts	Economic Impacts	Total Hazard Rating
Societal		Total Societal Hazard Risk Rating: 74					
Civil Disturbance	1	4	1	1	0	1	7
Crime	5	4	2	1	0	1	40
Economic Crisis	2	3	1	0	0	3	14
Key Employer Crisis	2	2	0	0	0	3	10
Terrorism	1	4	2	2	2	3	13
Technological		Total Technological Hazard Risk Rating: 174					
Hazardous Materials	4	4	2	1	2	3	48
Loss of Electrical Service	4	4	1	1	0	3	36
Loss of Gas Service	2	4	1	0	1	3	18
Loss of Sewer Service	2	4	1	0	1	3	18
Loss of Water Service	2	4	1	0	0	3	16
Radiological	2	4	2	1	2	3	24
Telecommunications Failure	2	4	1	0	0	2	14
		Total Risk Rating: 517					

NOTE: See table below for explanation of ratings.

Impact Area		Probability of Occurrence		Health & Safety Impacts	
0	No developed area impacted	1	Unknown but rare occurrence	0	No Health and Safety impact
1	Less than 25% of developed areas impacted	2	Unknown but anticipate an occurrence	1	Few injuries/illnesses
2	Less than 50% of developed area impacted	3	100 years or less occurrence	2	Few fatalities but many injuries/illnesses
3	Less than 75% of developed area impacted	4	25 years or less occurrence	3	Numerous fatalities
4	Over 75% of developed area impacted	5	Once a year or more occurrence		

Property Impacts		Environmental Impacts		Economic Impacts	
0	No property damage	0	Little or no environmental damage	0	No economic impact
1	Few properties destroyed - few properties damaged	1	Resources damaged with short term recovery practical	1	Low direct and/or low indirect costs
2	Few destroyed - many damaged	2	Resources damaged with long term recovery feasible	2	High direct & low indirect costs
2	Few damaged - many destroyed	3	Resources destroyed beyond recovery	2	Low direct & high indirect costs
3	Many properties destroyed and damaged			3	High direct & high indirect costs

Neighborhood Types and Structure Characteristics

Neighborhood	Type Neighborhood	Predominant Structure Type	Number of Structures	Average Value of Structures
Airport	Mixed Use	Mixed Structure Type	6	\$74,733
Community Center	Mixed Use	Mixed Structure Type	103	\$90,487
Downtown	Mixed Use	Mixed Structure Type	175	\$144,324
North Connell	Mixed Use	Mixed Structure Type	105	\$88,440
Old Town	Mixed Use	Mixed Structure Type	95	\$292,802
Park Estates	Mixed Use	Mixed Structure Type	55	\$787,154
Striker	Residential	Mixed Structure Type	259	\$42,236
The Farm	Mixed Use	Other	2	\$5,000

Estimated Population at Risk by Hazard

Hazard/ Neighborhood	Neighborhood Type	Estimated Population	Percent Population Considered at Risk	Total Estimated Population at Risk
<i>Civil Disturbance</i>				
Community Center	Mixed Use	75	25%	19
Downtown	Mixed Use	1,000	25%	250
Old Town	Mixed Use	200	100%	200
Park Estates	Mixed Use	200	100%	10
Striker	Residential	815	25%	204
<i>Crime</i>				
Community Center	Mixed Use	75	100%	75
Downtown	Mixed Use	1,000	100%	1,000
Old Town	Mixed Use	200	100%	200
Park Estates	Mixed Use	200	25%	50
Striker	Residential	815	100%	815
<i>Drought</i>				
Airport	Mixed Use	12	100%	12
Community Center	Mixed Use	75	100%	75
Downtown	Mixed Use	1,000	100%	1,000

Hazard/ Neighborhood	Neighborhood Type	Estimated Population	Percent Population Considered at Risk	Total Estimated Population at Risk
Old Town	Mixed Use	200	100%	200
Striker	Residential	815	100%	815
The Farm	Mixed Use	0	100%	0
<i>Earthquake</i>				
Airport	Mixed Use	12	100%	12
Community Center	Mixed Use	75	100%	75
Downtown	Mixed Use	1,000	100%	1,000
North Connell	Mixed Use	1,000	100%	1,000
Old Town	Mixed Use	200	100%	200
Park Estates	Mixed Use	200	25%	200
Striker	Residential	815	100%	815
The Farm	Mixed Use	0	100%	0
<i>Economic Crisis</i>				
Airport	Mixed Use	12	50%	6
Community Center	Mixed Use	75	50%	38
Downtown	Mixed Use	1,000	50%	500
North Connell	Mixed Use	1,000	10%	100
Old Town	Mixed Use	200	100%	200
Park Estates	Mixed Use	200	50%	100
Striker	Residential	815	50%	408
<i>Flooding</i>				
North Connell	Mixed Use	1,000	20%	200
Old Town	Mixed Use	200	1%	2
<i>Hail</i>				
Airport	Mixed Use	12	100%	12
Community Center	Mixed Use	75	100%	75
Downtown	Mixed Use	1,000	100%	1,000
North Connell	Mixed Use	1,000	100%	1,000
Old Town	Mixed Use	200	100%	200
Park Estates	Mixed Use	200	100%	200
Striker	Residential	815	100%	815
The Farm	Mixed Use	0	100%	0
<i>Hazardous Materials</i>				
Airport	Mixed Use	12	100%	12
Community Center	Mixed Use	75	100%	75
Downtown	Mixed Use	1,000	100%	1,000

Hazard/ Neighborhood	Neighborhood Type	Estimated Population	Percent Population Considered at Risk	Total Estimated Population at Risk
North Connell	Mixed Use	1,000	100%	1,000
Old Town	Mixed Use	200	100%	200
Park Estates	Mixed Use	200	100%	200
Striker	Residential	815	20%	163
The Farm	Mixed Use	0	35%	0
<i>High Winds</i>				
Airport	Mixed Use	12	100%	12
Community Center	Mixed Use	75	100%	75
Downtown	Mixed Use	1,000	100%	1,000
North Connell	Mixed Use	1,000	100%	1,000
Old Town	Mixed Use	200	100%	200
Park Estates	Mixed Use	200	100%	200
Striker	Residential	815	100%	815
<i>Infestation, Disease</i>				
Airport	Mixed Use	12	10%	1
Community Center	Mixed Use	75	50%	38
Downtown	Mixed Use	1,000	50%	500
North Connell	Mixed Use	1,000	25%	250
Old Town	Mixed Use	200	100%	200
Park Estates	Mixed Use	200	55%	110
Striker	Residential	815	50%	408
<i>Loss of Electrical Service</i>				
Airport	Mixed Use	12	100%	12
Community Center	Mixed Use	75	100%	75
Downtown	Mixed Use	1,000	100%	1,000
North Connell	Mixed Use	1,000	100%	1,000
Old Town	Mixed Use	200	100%	200
Park Estates	Mixed Use	200	100%	200
Striker	Residential	815	100%	815
The Farm	Mixed Use	0	50%	0
<i>Loss of Gas Service</i>				
Airport	Mixed Use	12	100%	12
Community Center	Mixed Use	75	100%	75
Downtown	Mixed Use	1,000	100%	1,000
North Connell	Mixed Use	1,000	100%	1,000
Old Town	Mixed Use	200	100%	200
Park Estates	Mixed Use	200	100%	200

Hazard/ Neighborhood	Neighborhood Type	Estimated Population	Percent Population Considered at Risk	Total Estimated Population at Risk
Striker	Residential	815	100%	815
<i>Loss of Sewer Service</i>				
Airport	Mixed Use	12	100%	12
Community Center	Mixed Use	75	100%	75
Downtown	Mixed Use	1,000	100%	1,000
North Connell	Mixed Use	1,000	100%	1,000
Old Town	Mixed Use	200	100%	200
Park Estates	Mixed Use	200	100%	200
Striker	Residential	815	100%	815
The Farm	Mixed Use	0	100%	0
<i>Loss of Water Service</i>				
Airport	Mixed Use	12	100%	12
Community Center	Mixed Use	75	100%	75
Downtown	Mixed Use	1,000	100%	1,000
North Connell	Mixed Use	1,000	100%	1,000
Old Town	Mixed Use	200	100%	200
Park Estates	Mixed Use	200	100%	200
Striker	Residential	815	100%	815
The Farm	Mixed Use	0	100%	0
<i>Major Fire - Urban</i>				
Community Center	Mixed Use	75	20%	15
Downtown	Mixed Use	1,000	20%	200
North Connell	Mixed Use	1,000	20%	200
Old Town	Mixed Use	200	100%	200
Park Estates	Mixed Use	200	30%	60
Striker	Residential	815	20%	163
<i>Major Fire - Wildland</i>				
Airport	Mixed Use	12	100%	12
North Connell	Mixed Use	1,000	15%	150
Old Town	Mixed Use	200	10%	20
Park Estates	Mixed Use	200	10%	20
The Farm	Mixed Use	0	100%	0
<i>Radiological</i>				
Airport	Mixed Use	12	100%	12
Community Center	Mixed Use	75	100%	75
Downtown	Mixed Use	1,000	100%	1,000

Hazard/ Neighborhood	Neighborhood Type	Estimated Population	Percent Population Considered at Risk	Total Estimated Population at Risk
North Connell	Mixed Use	1,000	100%	1,000
Old Town	Mixed Use	200	100%	200
Park Estates	Mixed Use	200	100%	200
Striker	Residential	815	100%	815
The Farm	Mixed Use	0	100%	0
<i>Severe Winter Storm</i>				
Airport	Mixed Use	12	100%	12
Community Center	Mixed Use	75	100%	75
North Connell	Mixed Use	1,000	100%	1,000
Old Town	Mixed Use	200	100%	200
Park Estates	Mixed Use	200	100%	200
Striker	Residential	815	100%	815
<i>Telecommunications</i>				
Airport	Mixed Use	12	15%	2
Community Center	Mixed Use	75	15%	11
Downtown	Mixed Use	1,000	15%	150
North Connell	Mixed Use	1,000	15%	150
Old Town	Mixed Use	200	100%	200
Park Estates	Mixed Use	200	15%	30
Striker	Residential	815	15%	122
<i>Volcano Activity</i>				
Old Town	Mixed Use	200	100%	200

To make jurisdiction-wide analysis of the population at risk for each hazard type feasible and practical for mitigation planning purposes, a simplified approach has been used. The estimate of the population at risk for specific hazards is accomplished in the following manner: The population in a specific neighborhood is estimated by local planners, based on readily available data or their best judgment in the absence of suitable data. The population could be residents, workers, visitors, institutionalized individuals, mixed population types, etc., depending on the characteristics of the neighborhood. The percentage of the area of the specific neighborhood threatened by the identified hazard is then estimated by local planners, again based on readily available data or their best judgment. The percent of the neighborhood at risk is then used as a multiplier to determine the estimated number of people at risk from that hazard. The methodology is simplistic but conservative, in that it assumes occupied structures are uniformly distributed throughout the neighborhood in relation to the area of risk, that the population is present in the neighborhood on a 24 hour, 7 day basis, and that all individuals are equally vulnerable to the impacts of the hazard event. The derived estimates for the number of people at risk may therefore be higher than actually is the case, but the estimates are considered satisfactory to support the local mitigation planning process.

Estimated Value of Structures at Risk by Hazard

Hazard/ Neighborhood	Neighborhood Type	Est. Number of Structures	Avg. Value of Each Structure	Percent Structures Considered at Risk	Total Est. Value of Structures at Risk
<i>Civil Disturbance</i>					
Community Center	Mixed Use	103	\$90,487	25%	\$2,330,040
Downtown	Mixed Use	175	\$144,324	25%	\$6,314,175
Old Town	Mixed Use	95	\$296,802	100%	\$28,196,229
Park Estates	Mixed Use	55	\$787,154	5%	\$2,164,675
Striker	Residential	259	\$42,236	25%	\$2,734,781
<i>Crime</i>					
Community Center	Mixed Use	103	\$90,487	100%	\$9,320,161
Downtown	Mixed Use	175	\$144,324	100%	\$25,256,700
Old Town	Mixed Use	95	\$296,802	100%	\$28,196,229
Park Estates	Mixed Use	55	\$787,154	25%	\$10,823,371
Striker	Residential	259	\$42,236	100%	\$10,939,124
<i>Drought</i>					
Airport	Mixed Use	6	\$74,733	100%	\$448,398
Community Center	Mixed Use	103	\$90,487	100%	\$9,320,161
Downtown	Mixed Use	175	\$144,324	100%	\$25,256,700
Old Town	Mixed Use	95	\$296,802	100%	\$28,196,229
Striker	Residential	259	\$42,236	100%	\$10,939,124
The Farm	Mixed Use	2	\$5,000	100%	\$10,000
<i>Earthquake</i>					
Airport	Mixed Use	6	\$74,733	100%	\$448,398
Community Center	Mixed Use	103	\$90,487	100%	\$9,320,161
Downtown	Mixed Use	175	\$144,324	100%	\$25,256,700
North Connell	Mixed Use	105	\$88,440	100%	\$9,286,200
Old Town	Mixed Use	95	\$296,802	100%	\$28,196,229
Park Estates	Mixed Use	55	\$787,154	25%	\$10,823,371
Striker	Residential	259	\$42,236	100%	\$10,939,124
The Farm	Mixed Use	2	\$5,000	100%	\$10,000
<i>Economic Crisis</i>					
Airport	Mixed Use	6	\$74,733	50%	\$224,196
Community Center	Mixed Use	103	\$90,487	50%	\$9,320,161
Downtown	Mixed Use	175	\$144,324	50%	\$25,256,700
North Connell	Mixed Use	105	\$88,440	10%	\$928,620
Old Town	Mixed Use	95	\$296,802	100%	\$28,196,229

Hazard/ Neighborhood	Neighborhood Type	Est. Number of Structures	Avg. Value of Each Structure	Percent Structures Considered at Risk	Total Est. Value of Structures at Risk
Park Estates	Mixed Use	55	\$787,154	50%	\$21,646,748
Striker	Residential	259	\$42,236	50%	\$5,469,561
<i>Flooding</i>					
North Connell	Mixed Use	105	\$88,440	20%	\$1,857,240
Old Town	Mixed Use	95	\$296,802	1%	\$281,962
<i>Hail</i>					
Airport	Mixed Use	6	\$74,733	100%	\$448,398
Community Center	Mixed Use	103	\$90,487	100%	\$9,320,161
Downtown	Mixed Use	175	\$144,324	100%	\$25,256,700
North Connell	Mixed Use	105	\$88,440	100%	\$9,286,200
Old Town	Mixed Use	95	\$296,802	100%	\$28,196,229
Park Estates	Mixed Use	55	\$787,154	100%	\$43,293,496
Striker	Residential	259	\$42,236	100%	\$10,939,124
The Farm	Mixed Use	2	\$5,000	100%	\$10,000
<i>Hazardous Materials</i>					
Airport	Mixed Use	6	\$74,733	100%	\$448,398
Community Center	Mixed Use	103	\$90,487	100%	\$9,320,161
Downtown	Mixed Use	175	\$144,324	100%	\$25,256,700
North Connell	Mixed Use	105	\$88,440	100%	\$9,286,200
Old Town	Mixed Use	95	\$296,802	100%	\$28,196,229
Park Estates	Mixed Use	55	\$787,154	100%	\$43,293,496
Striker	Residential	259	\$42,236	20%	\$2,187,825
The Farm	Mixed Use	2	\$5,000	35%	\$3,500
<i>High Winds</i>					
Airport	Mixed Use	6	\$74,733	100%	\$448,398
Community Center	Mixed Use	103	\$90,487	100%	\$9,320,161
Downtown	Mixed Use	175	\$144,324	100%	\$25,256,700
North Connell	Mixed Use	105	\$88,440	100%	\$9,286,200
Old Town	Mixed Use	95	\$296,802	100%	\$28,196,229
Park Estates	Mixed Use	55	\$787,154	100%	\$43,293,496
Striker	Residential	259	\$42,236	100%	\$10,939,124
The Farm	Mixed Use	2	\$5,000	100%	\$10,000
<i>Infestation, Disease</i>					
Airport	Mixed Use	6	\$74,733	10%	\$44,840
Community Center	Mixed Use	103	\$90,487	50%	\$4,60,081
Downtown	Mixed Use	175	\$144,324	50%	\$12,628,350

Hazard/ Neighborhood	Neighborhood Type	Est. Number of Structures	Avg. Value of Each Structure	Percent Structures Considered at Risk	Total Est. Value of Structures at Risk
North Connell	Mixed Use	105	\$88,440	25%	\$2,321,550
Old Town	Mixed Use	95	\$296,802	100%	\$28,196,229
Park Estates	Mixed Use	55	\$787,154	55%	\$23,811,423
Striker	Residential	259	\$42,236	50%	\$5,469,562
<i>Loss of Electrical Service</i>					
Airport	Mixed Use	6	\$74,733	100%	\$448,398
Community Center	Mixed Use	103	\$90,487	100%	\$9,320,161
Downtown	Mixed Use	175	\$144,324	100%	\$25,256,700
North Connell	Mixed Use	105	\$88,440	100%	\$9,286,200
Old Town	Mixed Use	95	\$296,802	100%	\$28,196,229
Park Estates	Mixed Use	55	\$787,154	100%	\$43,293,496
Striker	Residential	259	\$42,236	100%	\$10,939,124
The Farm	Mixed Use	2	\$5,000	50%	\$5,000
<i>Loss of Gas Service</i>					
Airport	Mixed Use	6	\$74,733	100%	\$448,398
Community Center	Mixed Use	103	\$90,487	100%	\$9,320,161
Downtown	Mixed Use	175	\$144,324	100%	\$25,256,700
North Connell	Mixed Use	105	\$88,440	100%	\$9,286,200
Old Town	Mixed Use	95	\$296,802	100%	\$28,196,229
Park Estates	Mixed Use	55	\$787,154	100%	\$43,293,496
Striker	Residential	259	\$42,236	100%	\$10,939,124
<i>Loss of Sewer Service</i>					
Airport	Mixed Use	6	\$74,733	100%	\$448,398
Community Center	Mixed Use	103	\$90,487	100%	\$9,320,161
Downtown	Mixed Use	175	\$144,324	100%	\$25,256,700
North Connell	Mixed Use	105	\$88,440	100%	\$9,286,200
Old Town	Mixed Use	95	\$296,802	100%	\$28,196,229
Park Estates	Mixed Use	55	\$787,154	100%	\$43,293,496
Striker	Residential	259	\$42,236	100%	\$10,939,124
The Farm	Mixed Use	2	\$5,000	100%	\$10,000
<i>Loss of Water Service</i>					
Airport	Mixed Use	6	\$74,733	100%	\$448,398
Community Center	Mixed Use	103	\$90,487	100%	\$9,320,161
Downtown	Mixed Use	175	\$144,324	100%	\$25,256,700
North Connell	Mixed Use	105	\$88,440	100%	\$9,286,200
Old Town	Mixed Use	95	\$296,802	100%	\$28,196,229
Park Estates	Mixed Use	55	\$787,154	100%	\$43,293,496

Hazard/ Neighborhood	Neighborhood Type	Est. Number of Structures	Avg. Value of Each Structure	Percent Structures Considered at Risk	Total Est. Value of Structures at Risk
Striker	Residential	259	\$42,236	100%	\$10,939,124
The Farm	Mixed Use	2	\$5,000	100%	\$10,000
<i>Major Fire - Urban</i>					
Community Center	Mixed Use	103	\$90,487	20%	\$1,864,032
Downtown	Mixed Use	175	\$144,324	20%	\$5,051,340
North Connell	Mixed Use	105	\$88,440	20%	\$1,857,240
Old Town	Mixed Use	95	\$296,802	100%	\$28,196,229
Park Estates	Mixed Use	55	\$787,154	30%	\$12,988,049
Striker	Residential	259	\$42,236	20%	\$2,187,825
<i>Major Fire - Wildland</i>					
Airport	Mixed Use	6	\$74,733	100%	\$448,398
North Connell	Mixed Use	105	\$88,440	15%	\$1,392,930
Old Town	Mixed Use	95	\$296,802	10%	\$2,819,623
Park Estates	Mixed Use	55	\$787,154	10%	\$4,329,350
The Farm	Mixed Use	2	\$5,000	100%	\$10,000
<i>Radiological</i>					
Airport	Mixed Use	6	\$74,733	100%	\$448,398
Community Center	Mixed Use	103	\$90,487	100%	\$9,320,161
Downtown	Mixed Use	175	\$144,324	100%	\$25,256,700
North Connell	Mixed Use	105	\$88,440	100%	\$9,286,200
Old Town	Mixed Use	95	\$296,802	100%	\$28,196,229
Park Estates	Mixed Use	55	\$787,154	100%	\$43,293,496
Striker	Residential	259	\$42,236	100%	\$10,939,124
The Farm	Mixed Use	2	\$5,000	100%	\$10,000
<i>Severe Winter Storm</i>					
Airport	Mixed Use	6	\$74,733	100%	\$448,398
Community Center	Mixed Use	103	\$90,487	100%	\$9,320,161
Downtown	Mixed Use	175	\$144,324	100%	\$25,256,700
North Connell	Mixed Use	105	\$88,440	100%	\$9,286,200
Old Town	Mixed Use	95	\$296,802	100%	\$28,196,229
Park Estates	Mixed Use	55	\$787,154	100%	\$43,293,496
Striker	Residential	259	\$42,236	100%	\$10,939,124
<i>Telecommunications</i>					
Airport	Mixed Use	6	\$74,733	15%	\$67,260
Community Center	Mixed Use	103	\$90,487	15%	\$1,398,024
Downtown	Mixed Use	175	\$144,324	15%	\$3,788,505

Hazard/ Neighborhood	Neighborhood Type	Est. Number of Structures	Avg. Value of Each Structure	Percent Structures Considered at Risk	Total Est. Value of Structures at Risk
North Connell	Mixed Use	105	\$88,440	15%	\$1,392,930
Old Town	Mixed Use	95	\$296,802	100%	\$28,196,229
Park Estates	Mixed Use	55	\$787,154	15%	\$6,494,024
Striker	Residential	259	\$42,236	15%	\$1,640,869
<i>Volcanic Activity</i>					
Old Town	Mixed Use	95	\$296,802	100%	\$28,196,229

To make jurisdiction-wide analysis of the dollar value of properties at risk for each hazard type feasible and practical for mitigation planning purposes, a simplified approach has been used. The estimate of the dollar value of properties at risk for specific hazards is accomplished in the following manner: The number of structures in a specific neighborhood and the average dollar value for those structures is estimated by local planners, based on readily available data or their best judgment in the absence of suitable data. The percentage of the specific neighborhood threatened by the identified hazard is then estimated by local planners, again based on readily available data or their best judgment. The percent of the neighborhood at risk is then used as a multiplier to determine the estimated number of structures at risk from that hazard. This number is then multiplied by the estimated average cost of the structures to derive an estimated total value of the property at risk of damage in that neighborhood from the identified hazard. The methodology is simplistic but conservative in that it assumes structures are uniformly distributed throughout the neighborhood in relation to the area of risk, that the hazard threatens the entire value of each structure, and that structures are equally vulnerable to the impacts of the hazard. The derived estimates for the dollar value of property at risk may therefore be higher than would actually be the case, but the estimates are considered satisfactory to support the local mitigation planning process.

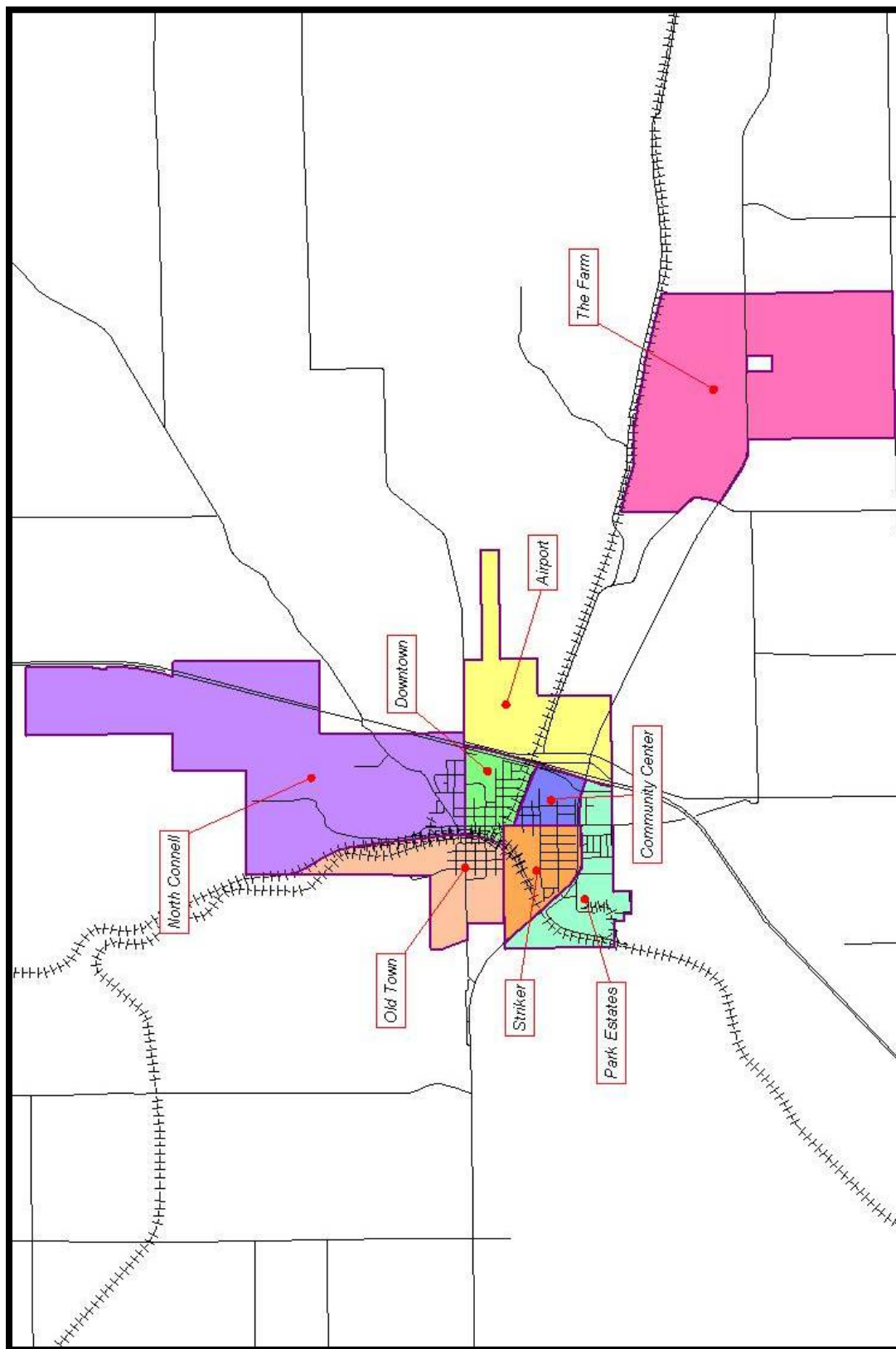


Figure 3: Connell Neighborhoods Map

The purpose of this section of the plan is to assess the vulnerability of the City of Mesa in regards to the various hazards previously identified in Chapter 2 of this plan. In addition, mitigation strategies that are currently in place relating to these hazards as well as newly proposed mitigation strategies have been included in this section of the plan. To complete the vulnerability assessment process, various city staff utilized a series of forms available in the 20/20 Mitigation Software. The information collected with these forms is included in this portion of the plan.

As part of the vulnerability assessment process, City of Mesa government completed an inventory of all critical facilities and has considered these critical facilities in our planning and mitigation strategy development process. However, due to post 9/11 concerns, those facilities are not listed separately in this document. A list of these facilities will be made available to FEMA personnel in the event this information is required to obtain future hazard mitigation grant funding.

Representatives from City of Mesa government worked with other agencies and Franklin County Emergency Management staff to develop a comprehensive, coordinated mitigation plan intended to reduce the vulnerability to hazards within Pasco. The information contained in this document presents the results of this effort to identify the specific hazards threatening Mesa, to characterize the vulnerability of Mesa regarding these hazards, and to identify current as well as proposed mitigation strategies, projects and/or programs to address those vulnerabilities.

The assessment is based on the best currently available information and data regarding the characteristics of the neighborhoods identified, the hazards that threaten the people, property, and environment of these neighborhoods as well as the impacts these neighborhoods have suffered in past disasters. This information includes, when available, United States Census data, local tax records, local and national geographic information system data, Flood Insurance Rate Maps, hazard specific analyses, and other environmental and demographic facts.

However, very often authoritative or current information simply was not available for the planning effort. In these cases, the experience, knowledge and judgment of local officials representing City of Mesa government were used in the planning, including assumptions and approximations that were believed to be reasonable. In addition, straight-forward, simplified technical analyses were used for tasks such as estimating property values, determining the size of populations affected, and so forth. The reliance on the judgment of knowledgeable officials and simplified analyses is considered acceptable at this stage to allow the participating organizations to complete the tasks needed to develop this multi-jurisdictional hazard mitigation plan. As the planning continues in future years, or at the time when a proposed mitigation initiative is intended to be funded and/or implemented, the participating organizations/jurisdictions recognize that additional information and analyses may be required. City of Mesa government is committed to the implementation of the mitigation-related projects/programs described in this section of the plan when and if resources become available. City of Mesa government is also committed to continuing the mitigation planning process that has resulted in the development of

this document, and to the ongoing cooperation with other agencies, organizations, and jurisdictions to make the City of Mesa more resistant to the damages and hardships that could otherwise be the result of future disasters.

Mesa Overview

Contact Information: Terri Standridge, Clerk Treasurer

City of Mesa

P.O. Box 146

Mesa, WA 99343

Telephone: (509) 265-4253

Population of Jurisdiction: 440 and Increasing Slightly

Principal Economic Base: Agricultural

Economic Characteristic: Economically Disadvantaged

Current Hazard Mitigation Codes/Plans/Ordinances:

- Comprehensive Land Use Plan
- Adopted Land Use/Zoning Code
- Adopted Fire or Life Safety Code
- Adopted Building Code (State-approved 1997 Uniform Building Code)

Jurisdiction-Specific Vulnerability Assessment & Mitigation Strategies

Current Land Uses and Potential for New Development

70 percent (1.162 square miles) of the jurisdiction remains to be developed

Current Land Use Category	Percent of Jurisdiction
Agricultural	30%
Commercial	10%
Industrial	2%
Developed with Mixed Uses	1%
Institutional (education, health care, etc.)	1%
Parks/restricted wild land/wildlife refuge	2%
Residential	10%
Transportation or utility right-of-way	10%
Vacant/unused - government ownership	30%
Vacant/unused - private ownership	2%
Waterway/lake/wetland	2%

Future Land Use

There is little or no development occurring on vacant or unused land.

The current rate of expansion, reconstruction or redevelopment of existing properties is occurring in some properties at a few locations.

Development/Redevelopment Currently Controlled By:

- A building code (1997 State-approved UBC)
- A land use plan
- A zoning code

Future Land Use Category (planning year 2008)	Percent of Jurisdiction
Agricultural	30%
Commercial	10%
Developed with Mixed Uses	1%
Industrial	2%
Institutional (education, health care, etc.)	1%
Parks/restricted wild land/wildlife refuge	2%
Residential	10%
Transportation or utility right-of-way	10%
Vacant/unused - government ownership	30%
Vacant/unused - private ownership	2%
Waterway/lake/wetland	1%

Comparison of Jurisdictional Relative Risk

Hazard	Probability of Occurrence	Impacted Area	Health & Safety Impacts	Property Impacts	Environmental Impacts	Economic Impacts	Total Hazard Rating
Natural		Total Natural Hazard Risk Rating: 255					
Drought	4	1	0	0	1	1	12
Earthquake	3	2	2	1	1	2	24
Flooding	3	2	1	2	1	2	24
Hail	4	3	1	1	0	1	24
High Winds	5	3	1	1	0	1	30
Infestation, Disease	3	1	1	0	0	1	9
Landslide, Erosion	1	1	1	1	0	1	4
Lightning	4	2	1	1	1	1	24
Major Fire – Urban	4	1	1	1	1	1	20
Major Fire – Wildland	4	1	1	1	1	1	20
Severe Winter Storm	4	3	1	1	1	2	32
Subsidence/Expansive Soils	2	2	1	1	1	2	14
Volcano Activity	2	4	1	1	2	3	22
Societal		Total Societal Hazard Risk Rating: 70					
Civil Disturbance	2	1	1	1	0	1	8

Hazard	Probability of Occurrence	Impacted Area	Health & Safety Impacts	Property Impacts	Environmental Impacts	Economic Impacts	Total Hazard Rating
Crime	5	1	1	1	0	1	20
Economic Crisis	4	2	0	0	0	2	16
Key Employer	4	1	0	0	0	2	12
Terrorism	2	1	2	1	1	2	14
Technological		Total Technological Hazard Risk Rating: 189					
Hazardous Materials	4	4	2	1	2	2	44
Loss of Electrical Service	4	4	1	1	1	1	32
Loss of Gas Service	1	0	0	0	0	0	0
Loss of Sewer Service	3	4	1	0	1	2	24
Loss of Water Service	4	4	1	0	0	2	28
Radiological	3	4	1	2	2	2	33
Telecommunications Failure	4	4	1	0	0	2	28
		Total Risk Rating: 518					

<i>Impact Area</i>		<i>Probability of Occurrence</i>		<i>Health & Safety Impacts</i>	
0	No developed area impacted	1	Unknown but rare occurrence	0	No Health and Safety impact
1	Less than 25% of developed areas impacted	2	Unknown but anticipate an occurrence	1	Few injuries/illnesses
2	Less than 50% of developed area impacted	3	100 years or less occurrence	2	Few fatalities but many injuries/illnesses
3	Less than 75% of developed area impacted	4	25 years or less occurrence	3	Numerous fatalities
4	Over 75% of developed area impacted	5	Once a year or more occurrence		

<i>Property Impacts</i>		<i>Environmental Impacts</i>		<i>Economic Impacts</i>	
0	No property damage	0	Little or no environmental damage	0	No economic impact
1	Few properties destroyed - few properties damaged	1	Resources damaged with short term recovery practical	1	Low direct and/or low indirect costs
2	Few destroyed - many damaged	2	Resources damaged with long term recovery feasible	2	High direct & low indirect costs
2	Few damaged - many destroyed	3	Resources destroyed beyond recovery	2	Low direct & high indirect costs
3	Many properties destroyed and damaged			3	High direct && high indirect costs

Neighborhood Types and Structure Characteristics

Neighborhood	Type Neighborhood	Predominant Structure Type	Number of Structures	Average Value of Structures
Downtown Mesa	Mixed Use	Mixed Structure Type	97	\$31,252
Park & School	Mixed Use	Mixed Structure Type	21	\$1,200,000
Parkside	Residential	Mixed Structure Type	40	\$51,397
South Mesa	Mixed Use	Other	6	\$403,900
West Mesa	Mixed Use	Mixed Structure Type	6	\$17,100

Estimated Population at Risk by Hazard

Hazard/ Neighborhood	Neighborhood Type	Estimated Population	Percent Population Considered at Risk	Total Estimated Population at Risk
<i>Civil Disturbance</i>				
Downtown Mesa	Mixed Use	310	100%	310
Park & School	Mixed Use	19	100%	19
Parkside	Residential	107	100%	107
<i>Crime</i>				
Downtown Mesa	Mixed Use	310	100%	310
Park & School	Mixed Use	19	100%	19
Parkside	Residential	107	100%	107
South Mesa	Mixed Use	0	100%	0
West Mesa	Mixed Use	4	100%	4
<i>Drought</i>				
Park & School	Mixed Use	19	100%	19
Parkside	Residential	107	100%	107
South Mesa	Mixed Use	0	100%	0
West Mesa	Mixed Use	4	100%	4
<i>Earthquake</i>				
Downtown Mesa	Mixed Use	310	100%	310
Park & School	Mixed Use	19	100%	19
Parkside	Residential	107	100%	107
South Mesa	Mixed Use	0	100%	0
West Mesa	Mixed Use	4	100%	4

Hazard/ Neighborhood	Neighborhood Type	Estimated Population	Percent Population Considered at Risk	Total Estimated Population at Risk
<i>Economic Crisis</i>				
Downtown Mesa	Mixed Use	310	100%	310
Park & School	Mixed Use	19	100%	19
Parkside	Residential	107	100%	107
West Mesa	Mixed Use	4	100%	4
<i>Flooding</i>				
Downtown Mesa	Mixed Use	310	100%	310
West Mesa	Mixed Use	4	100%	4
<i>Hail</i>				
Downtown Mesa	Mixed Use	310	100%	310
Park & School	Mixed Use	19	100%	19
Parkside	Residential	107	100%	107
South Mesa	Mixed Use	0	100%	0
West Mesa	Mixed Use	4	100%	4
<i>Hazardous Materials</i>				
Downtown Mesa	Mixed Use	310	100%	310
Park & School	Mixed Use	19	100%	19
Parkside	Residential	107	100%	107
South Mesa	Mixed Use	0	100%	0
West Mesa	Mixed Use	4	100%	4
<i>High Winds</i>				
Downtown Mesa	Mixed Use	310	100%	310
Park & School	Mixed Use	19	100%	19
Parkside	Residential	107	100%	107
South Mesa	Mixed Use	0	100%	0
West Mesa	Mixed Use	4	100%	4
<i>Infestation, Disease</i>				
Downtown Mesa	Mixed Use	310	100%	310
Park & School	Mixed Use	19	100%	19
Parkside	Residential	107	100%	107
South Mesa	Mixed Use	0	100%	0
West Mesa	Mixed Use	4	100%	4
<i>Key Employer Crisis</i>				
Downtown Mesa	Mixed Use	310	10%	31
Park & School	Mixed Use	19	50%	10

Hazard/ Neighborhood	Neighborhood Type	Estimated Population	Percent Population Considered at Risk	Total Estimated Population at Risk
West Mesa	Mixed Use	4	100%	4
<i>Lightning</i>				
Downtown Mesa	Mixed Use	310	100%	310
Park & School	Mixed Use	19	100%	19
Parkside	Residential	107	100%	107
South Mesa	Mixed Use	0	100%	0
West Mesa	Mixed Use	4	100%	4
<i>Loss of Electrical Service</i>				
Downtown Mesa	Mixed Use	310	100%	310
Park & School	Mixed Use	19	100%	19
Parkside	Residential	107	100%	107
South Mesa	Mixed Use	0	100%	0
West Mesa	Mixed Use	4	100%	4
<i>Loss of Sewer Service</i>				
Downtown Mesa	Mixed Use	310	100%	310
Park & School	Mixed Use	19	100%	19
Parkside	Residential	107	100%	107
West Mesa	Mixed Use	4	100%	4
<i>Loss of Water Service</i>				
Downtown Mesa	Mixed Use	310	100%	310
Park & School	Mixed Use	19	100%	19
Parkside	Residential	107	100%	107
West Mesa	Mixed Use	4	100%	4
<i>Major Fire - Urban</i>				
Downtown Mesa	Mixed Use	310	75%	233
Park & School	Mixed Use	19	25%	5
Parkside	Residential	107	100%	107
<i>Major Fire - Wildland</i>				
Park & School	Mixed Use	19	75%	14
Parkside	Residential	107	40%	43
South Mesa	Mixed Use	0	100%	0
West Mesa	Mixed Use	4	100%	4
<i>Radiological</i>				
Downtown Mesa	Mixed Use	310	100%	310

Hazard/ Neighborhood	Neighborhood Type	Estimated Population	Percent Population Considered at Risk	Total Estimated Population at Risk
Park & School	Mixed Use	19	100%	19
Parkside	Residential	107	100%	107
South Mesa	Mixed Use	0	100%	0
West Mesa	Mixed Use	4	100%	4
<i>Severe Winter Storm</i>				
Downtown Mesa	Mixed Use	310	100%	310
Park & School	Mixed Use	19	100%	19
Parkside	Residential	107	100%	107
South Mesa	Mixed Use	0	100%	0
West Mesa	Mixed Use	4	100%	4
<i>Telecommunications</i>				
Downtown Mesa	Mixed Use	310	100%	310
Park & School	Mixed Use	19	100%	19
Parkside	Residential	107	100%	107
South Mesa	Mixed Use	0	100%	0
West Mesa	Mixed Use	4	100%	4
<i>Volcano Activity</i>				
Downtown Mesa	Mixed Use	310	100%	310
Park & School	Mixed Use	19	100%	19
Parkside	Residential	107	100%	107

To make jurisdiction-wide analysis of the population at risk for each hazard type feasible and practical for mitigation planning purposes, a simplified approach has been used. The estimate of the population at risk for specific hazards is accomplished in the following manner: The population in a specific neighborhood is estimated by local planners, based on readily available data or their best judgment in the absence of suitable data. The population could be residents, workers, visitors, institutionalized individuals, mixed population types, etc., depending on the characteristics of the neighborhood. The percentage of the area of the specific neighborhood threatened by the identified hazard is then estimated by local planners, again based on readily available data or their best judgment. The percent of the neighborhood at risk is then used as a multiplier to determine the estimated number of people at risk from that hazard. The methodology is simplistic but conservative, in that it assumes occupied structures are uniformly distributed throughout the neighborhood in relation to the area of risk, that the population is present in the neighborhood on a 24 hour, 7 day basis, and that all individuals are equally vulnerable to the impacts of the hazard event. The derived estimates for the number of people at risk may therefore be higher than actually is the case, but the estimates are considered satisfactory to support the local mitigation planning process.

Estimated Value of Structures at Risk by Hazard

Hazard/ Neighborhood	Neighborhood Type	Est. Number of Structures	Avg. Value of Each Structure	Percent Structures Considered at Risk	Total Est. Value of Structures at Risk
<i>Civil Disturbance</i>					
Downtown Mesa	Mixed Use	97	\$31,252	100%	\$3,031,444
Park & School	Mixed Use	21	\$1,200,000	100%	\$25,200,000
Parkside	Residential	40	\$51,397	100%	\$2,055,880
<i>Crime</i>					
Downtown Mesa	Mixed Use	97	\$31,252	100%	\$3,031,444
Park & School	Mixed Use	21	\$1,200,000	100%	\$25,200,000
Parkside	Residential	40	\$51,397	100%	\$2,055,880
South Mesa	Mixed Use	6	\$403,900	100%	\$2,423,400
West Mesa	Mixed Use	6	\$17,100	100%	\$102,600
<i>Drought</i>					
Park & School	Mixed Use	21	\$1,200,000	100%	\$25,200,000
Parkside	Residential	40	\$51,397	100%	\$2,055,880
South Mesa	Mixed Use	6	\$403,900	100%	\$2,423,400
West Mesa	Mixed Use	6	\$17,100	100%	\$102,600
<i>Earthquake</i>					
Downtown Mesa	Mixed Use	97	\$31,252	100%	\$3,031,444
Park & School	Mixed Use	21	\$1,200,000	100%	\$25,200,000
Parkside	Residential	40	\$51,397	100%	\$2,055,880
South Mesa	Mixed Use	6	\$403,900	100%	\$2,423,400
West Mesa	Mixed Use	6	\$17,100	100%	\$102,600
<i>Economic Crisis</i>					
Downtown Mesa	Mixed Use	97	\$31,252	100%	\$3,031,444
Park & School	Mixed Use	21	\$1,200,000	100%	\$25,200,000
Parkside	Residential	40	\$51,397	100%	\$2,055,880
West Mesa	Mixed Use	6	\$17,100	100%	\$102,600
<i>Flooding</i>					
Downtown Mesa	Mixed Use	97	\$31,252	100%	\$3,031,444
West Mesa	Mixed Use	6	\$17,100	100%	\$102,600
<i>Hail</i>					
Downtown Mesa	Mixed Use	97	\$31,252	100%	\$3,031,444
Park & School	Mixed Use	21	\$1,200,000	100%	\$25,200,000
Parkside	Residential	40	\$51,397	100%	\$2,055,880

Hazard/ Neighborhood	Neighborhood Type	Est. Number of Structures	Avg. Value of Each Structure	Percent Structures Considered at Risk	Total Est. Value of Structures at Risk
South Mesa	Mixed Use	6	\$403,900	100%	\$2,423,400
West Mesa	Mixed Use	6	\$17,100	100%	\$102,600
<i>Hazardous Materials</i>					
Downtown Mesa	Mixed Use	97	\$31,252	100%	\$3,031,444
Park & School	Mixed Use	21	\$1,200,000	100%	\$25,200,000
Parkside	Residential	40	\$51,397	100%	\$2,055,880
South Mesa	Mixed Use	6	\$403,900	100%	\$2,423,400
West Mesa	Mixed Use	6	\$17,100	100%	\$102,600
<i>High Winds</i>					
Downtown Mesa	Mixed Use	97	\$31,252	100%	\$3,031,444
Park & School	Mixed Use	21	\$1,200,000	100%	\$25,200,000
Parkside	Residential	40	\$51,397	100%	\$2,055,880
South Mesa	Mixed Use	6	\$403,900	100%	\$2,423,400
West Mesa	Mixed Use	6	\$17,100	100%	\$102,600
<i>Infestation, Disease</i>					
Downtown Mesa	Mixed Use	97	\$31,252	100%	\$3,031,444
Park & School	Mixed Use	21	\$1,200,000	100%	\$25,200,000
Parkside	Residential	40	\$51,397	100%	\$2,055,880
South Mesa	Mixed Use	6	\$403,900	100%	\$2,423,400
West Mesa	Mixed Use	6	\$17,100	100%	\$102,600
<i>Key Employer Crisis</i>					
Downtown Mesa	Mixed Use	97	\$31,252	10%	\$303,144
Park & School	Mixed Use	21	\$1,200,000	50%	\$12,600,000
West Mesa	Mixed Use	6	\$17,100	100%	\$102,600
<i>Lightning</i>					
Downtown Mesa	Mixed Use	97	\$31,252	100%	\$3,031,444
Park & School	Mixed Use	21	\$1,200,000	100%	\$25,200,000
Parkside	Residential	40	\$51,397	100%	\$2,055,880
South Mesa	Mixed Use	6	\$403,900	100%	\$2,423,400
West Mesa	Mixed Use	6	\$17,100	100%	\$102,600
<i>Loss of Electrical Service</i>					
Downtown Mesa	Mixed Use	97	\$31,252	100%	\$3,031,444
Park & School	Mixed Use	21	\$1,200,000	100%	\$25,200,000
Parkside	Residential	40	\$51,397	100%	\$2,055,880
South Mesa	Mixed Use	6	\$403,900	100%	\$2,423,400

Hazard/ Neighborhood	Neighborhood Type	Est. Number of Structures	Avg. Value of Each Structure	Percent Structures Considered at Risk	Total Est. Value of Structures at Risk
West Mesa	Mixed Use	6	\$17,100	100%	\$102,600
<i>Loss of Sewer Service</i>					
Downtown Mesa	Mixed Use	97	\$31,252	100%	\$3,031,444
Park & School	Mixed Use	21	\$1,200,000	100%	\$25,200,000
Parkside	Residential	40	\$51,397	100%	\$2,055,880
West Mesa	Mixed Use	6	\$17,100	100%	\$102,600
<i>Loss of Water Service</i>					
Downtown Mesa	Mixed Use	97	\$31,252	100%	\$3,031,444
Park & School	Mixed Use	21	\$1,200,000	100%	\$25,200,000
Parkside	Residential	40	\$51,397	100%	\$2,055,880
West Mesa	Mixed Use	6	\$17,100	100%	\$102,600
<i>Major Fire - Urban</i>					
Downtown Mesa	Mixed Use	97	\$31,252	75%	\$2,273,583
Park & School	Mixed Use	21	\$1,200,000	25%	\$6,300,000
Parkside	Residential	40	\$51,397	100%	\$2,055,880
<i>Major Fire - Wildland</i>					
Park & School	Mixed Use	21	\$1,200,000	75%	\$18,900,000
Parkside	Residential	40	\$51,397	40%	\$822,352
South Mesa	Mixed Use	6	\$403,900	100%	\$2,423,400
West Mesa	Mixed Use	6	\$17,100	100%	\$102,600
<i>Radiological</i>					
Downtown Mesa	Mixed Use	97	\$31,252	100%	\$3,031,444
Park & School	Mixed Use	21	\$1,200,000	100%	\$25,200,000
Parkside	Residential	40	\$51,397	100%	\$2,055,880
South Mesa	Mixed Use	6	\$403,900	100%	\$2,423,400
West Mesa	Mixed Use	6	\$17,100	100%	\$102,600
<i>Severe Winter Storm</i>					
Downtown Mesa	Mixed Use	97	\$31,252	100%	\$3,031,444
Park & School	Mixed Use	21	\$1,200,000	100%	\$25,200,000
Parkside	Residential	40	\$51,397	100%	\$2,055,880
South Mesa	Mixed Use	6	\$403,900	100%	\$2,423,400
West Mesa	Mixed Use	6	\$17,100	100%	\$102,600
<i>Telecommunications</i>					
Downtown Mesa	Mixed Use	97	\$31,252	100%	\$3,031,444

Hazard/ Neighborhood	Neighborhood Type	Est. Number of Structures	Avg. Value of Each Structure	Percent Structures Considered at Risk	Total Est. Value of Structures at Risk
Park & School	Mixed Use	21	\$1,200,000	100%	\$25,200,000
Parkside	Residential	40	\$51,397	100%	\$2,055,880
South Mesa	Mixed Use	6	\$403,900	100%	\$2,423,400
West Mesa	Mixed Use	6	\$17,100	100%	\$102,600
<i>Volcanic Activity</i>					
Downtown Mesa	Mixed Use	97	\$31,252	100%	\$3,031,444
Park & School	Mixed Use	21	\$1,200,000	100%	\$25,200,000
Parkside	Residential	40	\$51,397	100%	\$2,055,880

To make jurisdiction-wide analysis of the dollar value of properties at risk for each hazard type feasible and practical for mitigation planning purposes, a simplified approach has been used. The estimate of the dollar value of properties at risk for specific hazards is accomplished in the following manner: The number of structures in a specific neighborhood and the average dollar value for those structures is estimated by local planners, based on readily available data or their best judgment in the absence of suitable data. The percentage of the specific neighborhood threatened by the identified hazard is then estimated by local planners, again based on readily available data or their best judgment. The percent of the neighborhood at risk is then used as a multiplier to determine the estimated number of structures at risk from that hazard. This number is then multiplied by the estimated average cost of the structures to derive an estimated total value of the property at risk of damage in that neighborhood from the identified hazard. The methodology is simplistic but conservative in that it assumes structures are uniformly distributed throughout the neighborhood in relation to the area of risk, that the hazard threatens the entire value of each structure, and that structures are equally vulnerable to the impacts of the hazard. The derived estimates for the dollar value of property at risk may therefore be higher than would actually be the case, but the estimates are considered satisfactory to support the local mitigation planning process.

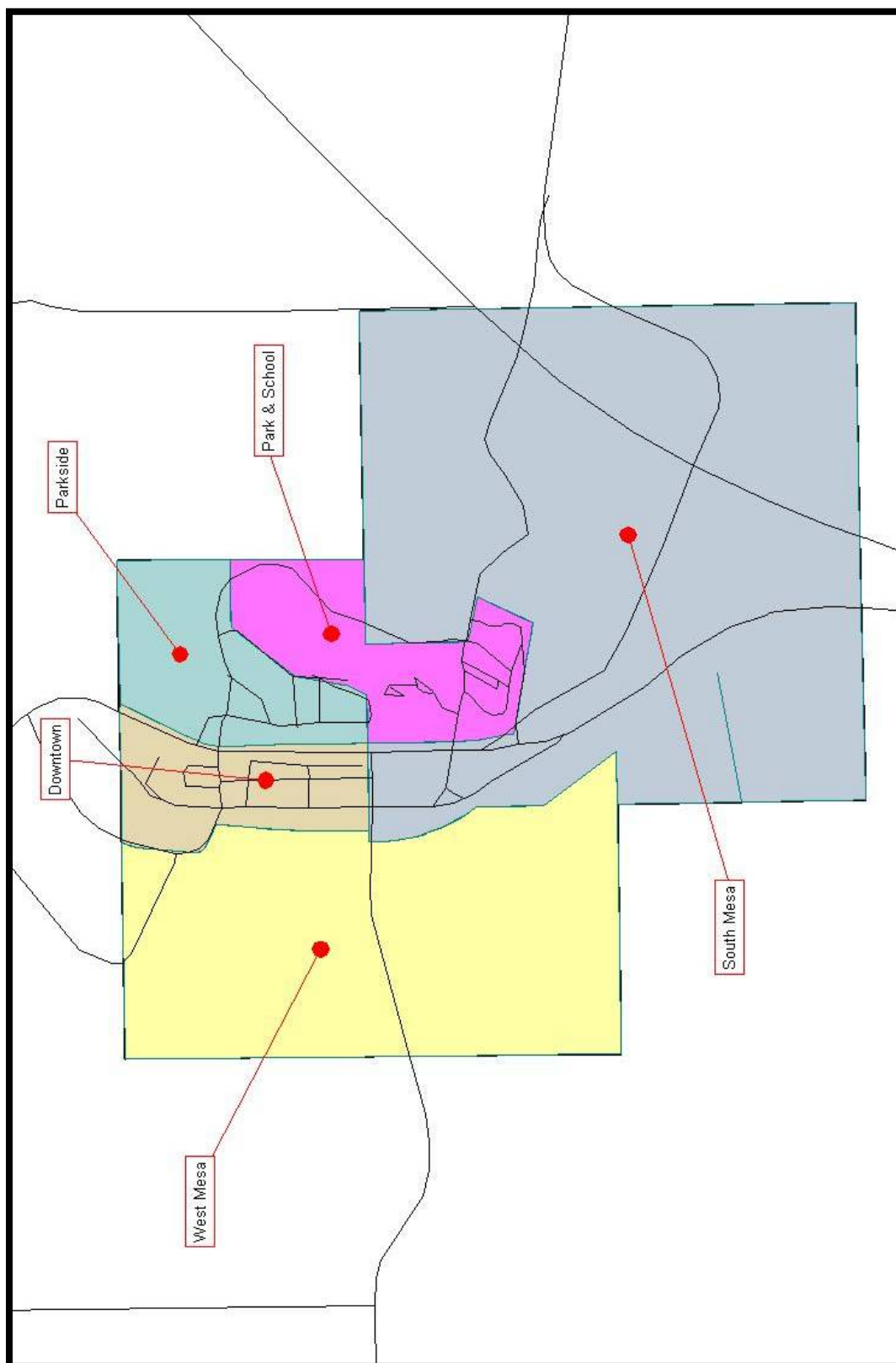


Figure 4: Mesa Neighborhood Map

City of Kahlotus

The purpose of this section of the plan is to assess the vulnerability of the City of Kahlotus in regards to the various hazards previously identified in Chapter 2 of this plan. In addition, mitigation strategies that are currently in place relating to these hazards as well as newly proposed mitigation strategies have been included in this section of the plan. To complete the vulnerability assessment process, various city staff utilized a series of forms available in the 20/20 Mitigation Software. The information collected with these forms is included in this portion of the plan.

As part of the vulnerability assessment process, City of Kahlotus government completed an inventory of all critical facilities and has considered these critical facilities in our planning and mitigation strategy development process. However, due to post 9/11 concerns, those facilities are not listed separately in this document. A list of these facilities will be made available to FEMA personnel in the event this information is required to obtain future hazard mitigation grant funding.

Representatives from City of Kahlotus government worked with other agencies and Franklin County Emergency Management staff to develop a comprehensive, coordinated mitigation plan intended to reduce the vulnerability to natural hazards within Kahlotus. The information contained in this document presents the results of this effort to identify the specific hazards threatening Kahlotus, to characterize the vulnerability of Kahlotus regarding these hazards, and to identify current as well as proposed mitigation strategies, projects and/or programs to address those vulnerabilities.

The assessment is based on the best currently available information and data regarding the characteristics of the neighborhoods identified, the hazards that threaten the people, property, and environment of these neighborhoods as well as the impacts these neighborhoods have suffered in past disasters. This information includes, when available, United States Census data, local tax records, local and national geographic information system data, Flood Insurance Rate Maps, hazard specific analyses, and other environmental and demographic facts.

However, very often authoritative or current information simply was not available for the planning effort. In these cases, the experience, knowledge and judgment of local officials representing City of Kahlotus government were used in the planning, including assumptions and approximations that were believed to be reasonable. In addition, straight-forward, simplified technical analyses were used for tasks such as estimating property values, determining the size of populations affected, and so forth. The reliance on the judgment of knowledgeable officials and simplified analyses is considered acceptable at this stage to allow the participating organizations to complete the tasks needed to develop this multi-jurisdictional hazard mitigation plan. As the planning continues in future years, or at the time when a proposed mitigation initiative is intended to be funded and/or implemented, the participating organizations/jurisdictions recognize that additional information and analyses may be required. City of Kahlotus government is committed to the implementation of the mitigation-related projects/programs described in this section of the plan when and if resources become available. City of Kahlotus government is also

committed to continuing the mitigation planning process that has resulted in the development of this document, and to the ongoing cooperation with other agencies, organizations, and jurisdictions to make the City of Kahlotus more resistant to the damages and hardships that could otherwise be the result of future disasters.

Kahlotus Overview

Contact Information: Richard Lee, Public Works Director

City of Kahlotus

P.O. Box 467

Kahlotus, WA 99335

Telephone: (509) 282-3372

Population of Jurisdiction: 255 and unchanging

Principal Economic Base: Residential Only

Economic Characteristic: Economically disadvantaged

Current Hazard Mitigation Codes/Plans/Ordinances:

- Comprehensive Land Use Plan
- Adopted Land Use/Zoning Code
- Adopted Building Code (State-approved 1997 Uniform Building Code)
- Participation in NFIP Program

Jurisdiction-Specific Vulnerability Assessment & Mitigation Strategies

Current Land Uses and Potential for New Development

The jurisdiction is considered to be fully developed.

Current Land Use Category	Percent of Jurisdiction
Agricultural	5%
Commercial	25%
Institutional (education, healthcare, etc.)	10%
Residential	55%
Transportation or utility right-of-way	5%

Future Land Use

There is little or no new development occurring on vacant or unused land.

The current rate of expansion, reconstruction or redevelopment of existing properties is occurring in very few or no properties.

Development/Redevelopment Currently Controlled By:

- A building code (1997 State-approved UBC)
- A land use plan

- A zoning code

Future Land Use Category (planning year 2006)	Percent of Jurisdiction
Agricultural	5%
Commercial	25%
Institutional (education, health care, etc.)	10%
Residential	55%
Transportation or utility right-of-way	5%

Comparison of Jurisdictional Relative Risk

Hazard	Probability of Occurrence	Impacted Area	Health & Safety Impacts	Property Impacts	Environmental Impacts	Economic Impacts	Total Hazard Rating
Natural		Total Natural Hazard Risk Rating: 429					
Drought	4	4	1	1	1	2	36
Earthquake	4	4	1	1	2	3	44
Flooding	4	3	1	2	1	1	32
Hail	5	4	1	1	0	1	35
High Winds	5	4	1	1	1	1	40
Infestation, Disease	4	1	1	1	2	1	24
Landslide, Erosion	4	3	1	1	2	1	32
Lightning	4	4	1	1	1	1	32
Major Fire – Urban	4	4	1	1	0	2	32
Major Fire – Wildland	5	4	1	2	1	2	50
Severe Winter Storm	5	4	1	1	2	1	45
Volcano Activity	3	4	1	1	2	1	27
Societal		Total Societal Hazard Risk Rating: 104					
Civil Disturbance	3	1	1	1	1	1	15
Crime	5	1	1	1	1	1	25
Economic Crisis	4	3	1	1	1	1	28
Key Employer Crisis	4	1	0	0	0	2	12
Terrorism	3	4	1	1	1	1	24
Technological		Total Technological Hazard Risk Rating: 175					
Hazardous Materials	4	4	1	1	2	1	36
Loss of Electrical Service	5	4	1	1	0	1	35
Loss of Water Svc	5	4	1	1	1	2	45
Radiological	3	4	1	1	2	1	27
Telecommunications Failure	4	4	1	1	0	2	32
		Total Risk Rating: 708					

NOTE: See table below for explanation of ratings.

<i>Impact Area</i>		<i>Probability of Occurrence</i>	<i>Health & Safety Impacts</i>
0	No developed area impacted	1 Unknown but rare occurrence	0 No Health and Safety impact
1	Less than 25% of developed areas impacted	2 Unknown but anticipate an occurrence	1 Few injuries/illnesses
2	Less than 50% of developed area impacted	3 100 years or less occurrence	2 Few fatalities but many injuries/illnesses
3	Less than 75% of developed area impacted	4 25 years or less occurrence	3 Numerous fatalities
4	Over 75% of developed area impacted	5 Once a year or more occurrence	

<i>Property Impacts</i>		<i>Environmental Impacts</i>	<i>Economic Impacts</i>
0	No property damage	0 Little or no environmental damage	0 No economic impact
1	Few properties destroyed - few properties damaged	1 Resources damaged with short term recovery practical	1 Low direct and/or low indirect costs
2	Few destroyed - many damaged	2 Resources damaged with long term recovery feasible	2 High direct & low indirect costs
2	Few damaged - many destroyed	3 Resources destroyed beyond recovery	2 Low direct & high indirect costs
3	Many properties destroyed and damaged		3 High direct && high indirect costs

Neighborhood Types and Structure Characteristics

Neighborhood	Type Neighborhood	Predominant Structure Type	Number of Structures	Average Value of Structures
North Kahlotus	Residential	Mixed Structure Type	40	\$31,417
South Kahlotus	Residential	Mixed Structure Type	95	\$17,793

Estimated Population at Risk by Hazard

Hazard/ Neighborhood	Neighborhood Type	Estimated Population	Percent Population Considered at Risk	Total Estimated Population at Risk
<i>Civil Disturbance</i>				
North Kahlotus	Residential	51	100%	51
South Kahlotus	Residential	204	100%	204

Hazard/ Neighborhood	Neighborhood Type	Estimated Population	Percent Population Considered at Risk	Total Estimated Population at Risk
<i>Crime</i>				
North Kahlotus	Residential	51	100%	51
South Kahlotus	Residential	204	100%	204
<i>Drought</i>				
North Kahlotus	Residential	51	100%	51
South Kahlotus	Residential	204	100%	204
<i>Earthquake</i>				
North Kahlotus	Residential	51	100%	51
South Kahlotus	Residential	204	100%	204
<i>Economic Crisis</i>				
North Kahlotus	Residential	51	100%	51
South Kahlotus	Residential	204	100%	204
<i>Flooding</i>				
North Kahlotus	Residential	51	20%	10
South Kahlotus	Residential	204	20%	41
<i>Hail</i>				
North Kahlotus	Residential	51	100%	51
South Kahlotus	Residential	204	100%	204
<i>Hazardous Materials</i>				
North Kahlotus	Residential	51	100%	51
South Kahlotus	Residential	204	100%	204
<i>High Winds</i>				
North Kahlotus	Residential	51	100%	51
South Kahlotus	Residential	204	100%	204
<i>Infestation, Disease</i>				
North Kahlotus	Residential	51	100%	51
South Kahlotus	Residential	204	100%	204
<i>Key Employer Crisis</i>				
North Kahlotus	Residential	51	50%	26
South Kahlotus	Residential	204	50%	102
<i>Landslide, Erosion</i>				

Hazard/ Neighborhood	Neighborhood Type	Estimated Population	Percent Population Considered at Risk	Total Estimated Population at Risk
North Kahlotus	Residential	51	20%	10
South Kahlotus	Residential	204	15%	31
<i>Lightning</i>				
North Kahlotus	Residential	51	100%	51
South Kahlotus	Residential	204	100%	204
<i>Loss of Electrical Service</i>				
North Kahlotus	Residential	51	100%	51
South Kahlotus	Residential	204	100%	204
<i>Loss of Gas Service</i>				
North Kahlotus	Residential	51	100%	51
South Kahlotus	Residential	204	100%	204
<i>Loss of Sewer Service</i>				
North Kahlotus	Residential	51	100%	51
South Kahlotus	Residential	204	100%	204
<i>Loss of Water Service</i>				
North Kahlotus	Residential	51	100%	51
South Kahlotus	Residential	204	100%	204
<i>Major Fire - Urban</i>				
North Kahlotus	Residential	51	100%	51
South Kahlotus	Residential	204	100%	204
<i>Major Fire - Wildland</i>				
North Kahlotus	Residential	51	50%	26
South Kahlotus	Residential	204	15%	31
<i>Radiological</i>				
North Kahlotus	Residential	51	100%	51
South Kahlotus	Residential	204	100%	204
<i>Severe Winter Storm</i>				
North Kahlotus	Residential	51	100%	51
South Kahlotus	Residential	204	100%	204
<i>Telecommunications</i>				
North Kahlotus	Residential	51	100%	51

Hazard/ Neighborhood	Neighborhood Type	Estimated Population	Percent Population Considered at Risk	Total Estimated Population at Risk
South Kahlotus	Residential	204	100%	204
<i>Volcano Activity</i>				
North Kahlotus	Residential	51	100%	51
South Kahlotus	Residential	204	100%	204

To make jurisdiction-wide analysis of the population at risk for each hazard type feasible and practical for mitigation planning purposes, a simplified approach has been used. The estimate of the population at risk for specific hazards is accomplished in the following manner: The population in a specific neighborhood is estimated by local planners, based on readily available data or their best judgment in the absence of suitable data. The population could be residents, workers, visitors, institutionalized individuals, mixed population types, etc., depending on the characteristics of the neighborhood. The percentage of the area of the specific neighborhood threatened by the identified hazard is then estimated by local planners, again based on readily available data or their best judgment. The percent of the neighborhood at risk is then used as a multiplier to determine the estimated number of people at risk from that hazard. The methodology is simplistic but conservative, in that it assumes occupied structures are uniformly distributed throughout the neighborhood in relation to the area of risk, that the population is present in the neighborhood on a 24 hour, 7 day basis, and that all individuals are equally vulnerable to the impacts of the hazard event. The derived estimates for the number of people at risk may therefore be higher than actually is the case, but the estimates are considered satisfactory to support the local mitigation planning process.

Estimated Value of Structures at Risk by Hazard

Hazard/ Neighborhood	Neighborhood Type	Est. Number of Structures	Avg. Value of Each Structure	Percent Structures Considered at Risk	Total Est. Value of Structures at Risk
<i>Civil Disturbance</i>					
North Kahlotus	Residential	40	\$31,417	100%	\$1,256,680
South Kahlotus	Residential	95	\$17,793	100%	\$1,690,335
<i>Crime</i>					
North Kahlotus	Residential	40	\$31,417	100%	\$1,256,680
South Kahlotus	Residential	95	\$17,793	100%	\$1,690,335
<i>Drought</i>					
North Kahlotus	Residential	40	\$31,417	100%	\$1,256,680
South Kahlotus	Residential	95	\$17,793	100%	\$1,690,335
<i>Earthquake</i>					
North Kahlotus	Residential	40	\$31,417	100%	\$1,256,680

Hazard/ Neighborhood	Neighborhood Type	Est. Number of Structures	Avg. Value of Each Structure	Percent Structures Considered at Risk	Total Est. Value of Structures at Risk
South Kahlotus	Residential	95	\$17,793	100%	\$1,690,335
<i>Economic Crisis</i>					
North Kahlotus	Residential	40	\$31,417	100%	\$1,256,680
South Kahlotus	Residential	95	\$17,793	100%	\$1,690,335
<i>Flooding</i>					
North Kahlotus	Residential	40	\$31,417	100%	\$1,256,680
South Kahlotus	Residential	95	\$17,793	100%	\$1,690,335
<i>Hail</i>					
North Kahlotus	Residential	40	\$31,417	100%	\$1,256,680
South Kahlotus	Residential	95	\$17,793	100%	\$1,690,335
<i>Hazardous Materials</i>					
North Kahlotus	Residential	40	\$31,417	100%	\$1,256,680
South Kahlotus	Residential	95	\$17,793	100%	\$1,690,335
<i>High Winds</i>					
North Kahlotus	Residential	40	\$31,417	100%	\$1,256,680
South Kahlotus	Residential	95	\$17,793	100%	\$1,690,335
<i>Infestation, Disease</i>					
North Kahlotus	Residential	40	\$31,417	100%	\$1,256,680
South Kahlotus	Residential	95	\$17,793	100%	\$1,690,335
<i>Key Employer Crisis</i>					
North Kahlotus	Residential	40	\$31,417	50%	\$628,340
South Kahlotus	Residential	95	\$17,793	50%	\$845,168
<i>Landslide, Erosion</i>					
North Kahlotus	Residential	40	\$31,417	20%	\$251,336
South Kahlotus	Residential	95	\$17,793	15%	\$253,550
<i>Lightning</i>					
North Kahlotus	Residential	40	\$31,417	100%	\$1,256,680
South Kahlotus	Residential	95	\$17,793	100%	\$1,690,335
<i>Loss of Electrical Service</i>					
North Kahlotus	Residential	40	\$31,417	100%	\$1,256,680
South Kahlotus	Residential	95	\$17,793	100%	\$1,690,335

Hazard/ Neighborhood	Neighborhood Type	Est. Number of Structures	Avg. Value of Each Structure	Percent Structures Considered at Risk	Total Est. Value of Structures at Risk
<i>Loss of Gas Service</i>					
North Kahlotus	Residential	40	\$31,417	100%	\$1,256,680
South Kahlotus	Residential	95	\$17,793	100%	\$1,690,335
<i>Loss of Sewer Service</i>					
North Kahlotus	Residential	40	\$31,417	100%	\$1,256,680
South Kahlotus	Residential	95	\$17,793	100%	\$1,690,335
<i>Loss of Water Service</i>					
North Kahlotus	Residential	40	\$31,417	100%	\$1,256,680
South Kahlotus	Residential	95	\$17,793	100%	\$1,690,335
<i>Major Fire - Urban</i>					
North Kahlotus	Residential	40	\$31,417	100%	\$1,256,680
South Kahlotus	Residential	95	\$17,793	100%	\$1,690,335
<i>Major Fire - Wildland</i>					
North Kahlotus	Residential	40	\$31,417	50%	\$628,340
South Kahlotus	Residential	95	\$17,793	15%	\$253,550
<i>Radiological</i>					
North Kahlotus	Residential	40	\$31,417	100%	\$1,256,680
South Kahlotus	Residential	95	\$17,793	100%	\$1,690,335
<i>Severe Winter Storm</i>					
North Kahlotus	Residential	40	\$31,417	100%	\$1,256,680
South Kahlotus	Residential	95	\$17,793	100%	\$1,690,335
<i>Telecommunications</i>					
North Kahlotus	Residential	40	\$31,417	100%	\$1,256,680
South Kahlotus	Residential	95	\$17,793	100%	\$1,690,335
<i>Volcanic Activity</i>					
North Kahlotus	Residential	40	\$31,417	100%	\$1,256,680
South Kahlotus	Residential	95	\$17,793	100%	\$1,690,335

To make jurisdiction-wide analysis of the dollar value of properties at risk for each hazard type feasible and practical for mitigation planning purposes, a simplified approach has been used. The estimate of the dollar value of properties at risk for specific hazards is accomplished in the following manner: The number of structures in a specific neighborhood and the average dollar value for those structures is estimated by local planners, based on readily available data or their

best judgment in the absence of suitable data. The percentage of the specific neighborhood threatened by the identified hazard is then estimated by local planners, again based on readily available data or their best judgment. The percent of the neighborhood at risk is then used as a multiplier to determine the estimated number of structures at risk from that hazard. This number is then multiplied by the estimated average cost of the structures to derive an estimated total value of the property at risk of damage in that neighborhood from the identified hazard. The methodology is simplistic but conservative in that it assumes structures are uniformly distributed throughout the neighborhood in relation to the area of risk. It also assumes that the hazard threatens the entire value of each structure and that structures are equally vulnerable to the impacts of the hazard. The derived estimates for the dollar value of property at risk may therefore be higher than would actually be the case, but the estimates are considered satisfactory to support the local mitigation planning process.

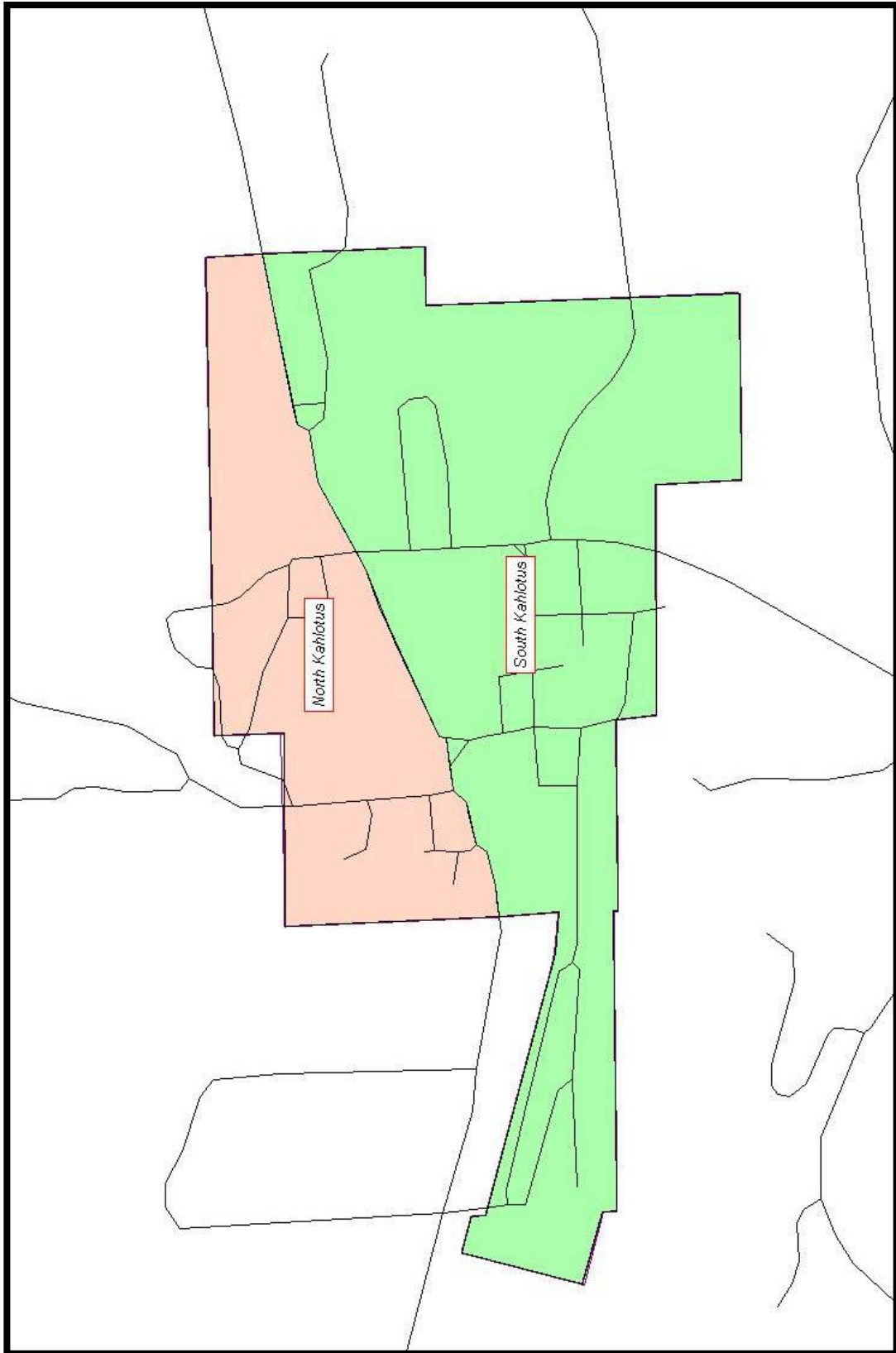


Figure 5: Kahlotus Neighborhoods Map